

## Chapter 2

### **Pilot experience requirements; Pilot recruitment and training; and Pilot retention**

2.1 This chapter discusses a number of terms of reference concerning airline safety in connection with the issues of pilot experience requirements, recruiting and training and pilot retention (terms of reference (a), (b), (c), (d) and (e)). The specific terms of reference are:

- pilot experience requirements and the consequence of any reduction in flight hour requirements on safety;
- the United States of America's Federal Aviation Administration Extension Act of 2010, which requires a minimum of 1500 flight hours before a pilot is able to operate on regular public transport services and whether a similar mandatory requirement should be applied in Australia;
- current industry practices to recruit pilots, including pay-for-training schemes and the impact such schemes may have on safety;
- retention of experienced pilots; and
- type rating and recurrent training for pilots.

2.2 The issue of pilot experience requirements was one of the main issues addressed in the submissions and evidence received by the committee, particularly in relation to the current experience levels of commercial airlines—that is, regular public transport (RPT)—pilots and co-pilots, and the proficiency levels achieved through modern pilot training methods.

#### **Pilot experience requirements and the consequence of any reduction in flight hour requirements on safety**

##### ***Regulatory requirements relating to pilots' minimum flight experience***

2.3 The committee heard that, in Australia, the Civil Aviation Safety Authority (CASA) is responsible for 'setting the minimum requirements for flying experience and knowledge standards necessary for gaining Australian pilot licences and endorsements and ratings that may attach thereto'.<sup>1</sup>

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1 *Submission 12*, p. 6.

2.4 There are three legislatively based elements governing pilot experience requirements for obtaining a pilot's licence and any related endorsements or ratings. These are:

- the minimum experience (flight hours) and knowledge standards specified in the [Civil Aviation Regulations 1988 (CARs)] for the purposes of gaining various pilot licences and any additional ratings that may subsequently attach to a licence;
- the minimum periodic currency standards specified in the CARs to ensure the holder of a licence or rating maintains the proficiency necessary to safely continue to exercise the privileges of [that] licence or rating; and
- the regulatory requirement for airlines to have in place a training and checking system.<sup>2</sup>

2.5 Airlines may establish experience requirements in addition to the legislative elements outlined above. These are 'often expressed in terms of a total number of flying hours, which...[are set] as a minimum entry level to a particular airline'.<sup>3</sup>

#### ***Current experience requirements for regular public transport airline pilots***

2.6 The committee heard that, with the exception of pilots (captains) of low capacity RPT,<sup>4</sup> CASA does not prescribe minimum experience requirements for co-pilots or pilots of RPT flights in Australia. However, the requirements for obtaining pilot licences operate as a de facto minimum experience requirement.

2.7 There are two licence types which are the basis of qualification to act as a co-pilot or pilot for a commercial RPT flight. These are, respectively, the Commercial Pilot Licence (CPL) and the Air Transport Pilot Licence (aeroplane) (ATPL).<sup>5</sup>

2.8 A third type of licence, the Multi-crew Pilot Licence (MPL), may also qualify a person to act as co-pilot for a commercial RPT flight. While there are currently no co-pilots operating in Australia on an MPL issued under the CARs, a number of submissions discussed these licences, given their potential to be issued in future.

#### ***Commercial Pilot Licence requirements***

2.9 In simple terms, a CPL qualifies the holder to:

- fly a single pilot aeroplane as pilot in command (captain) while the aeroplane is engaged in any operation;

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2 *Submission 12*, pp 5-6.

3 *Submission 12*, pp 5-6.

4 Australian and International Pilots Association, *Submission 6*, p. 3.

5 Civil Aviation Safety Authority (CASA), *Submission 12*, p. 6.

- fly a multi-pilot aeroplane as pilot in command while the aeroplane is engaged in any operation other than a charter operation or RPT operation; and
- fly an aeroplane as co-pilot while the aeroplane is engaged in any operation (including RPT operations).<sup>6</sup>

2.10 To qualify for a CPL via a commercial training course, a person must have, inter alia, a minimum of 150 hours of flight time flown as a pilot during the training course. The regulations specify the amount of particular types of experience that may count towards the total 150 hours.<sup>7</sup>

2.11 To qualify for a CPL via general aviation, a person must have a minimum of 200 hours of flight time. The regulations specify the amount of particular types of experience that may count towards the total 200 hours.<sup>8</sup>

#### *Air Transport Pilot Licence requirements*

2.12 In simple terms, an ATPL qualifies the holder to:

- fly an aeroplane as pilot in command (captain), or co-pilot, while the aeroplane is engaged in any operation (including RPT operations).<sup>9</sup>

2.13 To qualify for an ATPL, a person must have, inter alia, a minimum of 1500 hours of flight time that includes 750 hours as pilot of a registered, or recognised, aeroplane. The regulations specify the amounts of particular types of experience that may count towards the total 1500 hours.<sup>10</sup>

2.14 CASA submitted that the regulatory standards governing experience requirements for CPL and ATPL licences represented 'safe and internationally recognised minima for the operation of Australian registered aircraft by airlines'.<sup>11</sup> The CASA submission stated:

The minimum number of hours required to obtain a qualification (such as a private pilot licence) is generally set by [the International Civil Aviation Organization] ICAO and, in practical terms, provides a degree of confidence that a person with the prescribed number of hours of training and experience has acquired the skills needed for the award of a licence.<sup>12</sup>

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6 Civil Aviation Regulations 1998, r 5.105.

7 See Civil Aviation Regulations 1998, rr 5.104(1)(f)(i) and 5.111.

8 See Civil Aviation Regulations 1998, rr 5.104(1)(f)(ii) and 5.113.

9 Civil Aviation Regulations 1998, r. 5.166.

10 See Civil Aviation Regulations 1998, rr 5.165(1)(f) and 5.172.

11 *Submission 12*, p. 8.

12 *Submission 12*, p. 9.

2.15 As noted above, however, airlines 'frequently' set minimum experience levels as a precondition of employment that are higher than the regulatory minima set out above.<sup>13</sup>

2.16 In both cases, CPL and ATPL holders must also hold additional endorsements (such as a class endorsement) and ratings (such as a flight crew rating) to be entitled to co-pilot or pilot a particular class or type of aeroplane. Such endorsements or ratings may also increase a licence holder's flight or training experience above the minimum licence requirements.

2.17 The committee heard that minimum experience requirements for licensing purposes are complemented by requirements which ensure that proficiency is maintained. As noted above, pilots must adhere to periodic currency standards, which require a mandated number of hours to be flown over a specified period in order for a licence or rating to remain valid.<sup>14</sup> Airline operators are also required to maintain 'internal training and checking' systems to induct and train new and ongoing pilot employees, and pilots are required to undergo at least two proficiency checks in each calendar year. Training and checking systems are audited by CASA.<sup>15</sup>

#### *Multicrew Pilot Licence requirements*

2.18 In simple terms, an MPL qualifies the holder to:

- fly an aeroplane as co-pilot while it is engaged in any operation conducted under an Air Operators Certificate (AOC) that authorises charter or RPT operations.

2.19 To qualify for an MPL, a person must have, inter alia, a minimum of 240 hours of training as a pilot during an approved course of training, including:

- 40 hours of flight time as pilot of a registered aeroplane;
- at least 10 hours of solo flight time in a registered aeroplane;
- at least five hours of cross-country flight time as pilot in command (captain) in a registered aeroplane; and
- at least 12 take-offs and landings in a specified type of aircraft.<sup>16</sup>

2.20 The regulations also specify requirements for an MPL holder to hold a relevant endorsement and crew rating to act as co-pilot on a particular class or type of aeroplane.<sup>17</sup>

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13 Civil Aviation Safety Authority, *Submission 12*, p. 8.

14 Civil Aviation Safety Authority, *Submission 12*, p. 7.

15 *Submission 12*, p. 8.

16 See Civil Aviation Regulations 1998, r 5.207 and 5.214.

17 See Civil Aviation Regulations 1998, r 5.209 and 5.210.

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*Pilot licence experience requirements*

2.21 On the question of the types of experience that are counted towards the minimum experience requirements for the grant of a pilot licence, the Australian and International Pilots Association (AIPA) expressed concern that glider experience is able to be counted towards the 1500 hours required to hold an ATPL.

2.22 AIPA contended that glider experience does not correlate well or closely enough with the flying of engine-driven aircraft in a multi-crew environment.<sup>18</sup>

2.23 AIPA's view was supported by Captain Tim Berry, Director of Operations for Tiger Airways, who felt that 'no consideration should be given...in the context of an ATPL to glider pilot hours, ultralight pilot hours or anything of that kind'.<sup>19</sup>

2.24 Accordingly, AIPA called for the experience requirements for the grant of an Australian ATPL to be reviewed to ensure that sufficient weight is placed on multi-engine aeroplane experience as opposed to the recognition of glider and ultralight experience.<sup>20</sup>

*Consequences of any reduction in flight hour requirements on safety*

2.25 The terms of reference for the inquiry directed the committee to consider the consequences of any reduction in flight hour requirements on safety. Very little, if any, evidence was received on this question, most likely because there is no apparent proposal or likelihood that the current minimum experience requirements for the granting of pilot licences will be reduced.

2.26 However, many submissions commented that, historically, co-pilots and pilots of RPT flights generally commenced with flight experience hours well in excess of the minima prescribed for licence qualification. Suggested reasons for this included airlines setting higher entry requirements, a greater proportion of candidates coming through the general aviation pathway (where high numbers of flight experience hours are common), and traditional career pathways whereby candidates often gained significant flight hours as second officers. Captain Geoff Klouth submitted:

Traditionally experience has been valued in aviation and it was only through the accrual of experience that a pilot was able to progress to the next level of operation. This would result in experience levels in the cockpits of jet aircraft being high with the First Officer and the Captain. The stable nature of the Australian airline industry also meant that First Officers generally had many years in the right hand seat before progressing to Captain. With the collapse of Ansett and the rapid expansion of Virgin

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18 Captain Richard Woodward, *Committee Hansard*, 1 December 2010, p. 5.

19 *Committee Hansard*, 1 December 2010, p. 26.

20 *Submission 6*, p. 6.

Blue that stable progression was replaced by pilots obtaining jet Command positions within 6 to 12 months of commencing with the airline.<sup>21</sup>

2.27 The committee heard that co-pilots are today frequently commencing as first officers with a number of flight experience hours much closer to the prescribed licence minima. The consequences of this apparent development were addressed in much of the evidence provided to the inquiry.

2.28 Accordingly, the committee considered the consequences of the current trend towards flight crews having lower average experience levels than in the past.

### **Consequences of trend towards lower average experience levels**

2.29 As noted above, a number of submissions identified a trend in the aviation industry towards pilots operating on RPT flights with lower average flight experience levels. Tiger Airways noted that a worldwide shift in recruitment practices, away from general aviation and military pathways, was a factor in declining experience levels:

...there has been a trend internationally over the past twenty years, or so, away from 'traditional' routes [that is, general aviation and the military] for pilots into commercial aviation. Traditional routes into aviation did generally mean that pilots did have a higher number of flight hours than is the case today.<sup>22</sup>

2.30 VIPA submitted that the general 'lowering in the average flying experience levels of crews', was due to the increased competition and number of aircraft being operated in Australia.<sup>23</sup>

2.31 Some airlines indicated that, for various reasons, their recruitment strategies favoured candidates coming through training courses specifically designed to produce commercial RPT pilots. This is discussed further below under the discussion of cadet schemes (term of reference (c)).

2.32 However, some airlines provided evidence indicating that they continued to recruit pilots with experience levels well in excess of the prescribed licence minima. Captain Rick Howell, General Manager of Flight Operations and Chief Pilot for the Virgin Blue Group (Virgin), for example, advised:

...for Virgin Blue and...V Australia as well, the first officer standard...is 1000 hours and 500 hours in multiengine aeroplanes so...it is well above the minimum standard...I do not believe that we have actually recruited anyone into a first officer position with less than 1500 hours.<sup>24</sup>

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21 *Submission 5*, p. 1.

22 *Submission 14*, p. 1.

23 *Submission 37*, p. 3.

24 *Committee Hansard*, 18 March 2011, p. 15.

2.33 Mr Tony Davis, Tiger Airways' Chief Executive Officer and President, advised that Tiger Airways had in place a requirement of 2000 hours for its co-pilots.<sup>25</sup>

***Risks associated with lower average experience levels***

2.34 CASA submitted that current licensing standards, along with supporting measures such as training and checking systems, meet international standards and produce pilots with adequate levels of proficiency to operate safely in the aviation sector:

Australia's basic pilot licensing system meets or exceeds ICAO requirements and produces pilots equipped to move safely and competently into the airline environment. Similarly, the mandated training and checking system required of airlines, when properly designed to meet the airline's operational and human capital environment, provides an ongoing training and proficiency checking outcome that helps to ensure high safety standards.<sup>26</sup>

2.35 However, a number of submitters and witnesses expressed concerns about pilots operating close to minimum experience requirements.

*View of the Australian and International Pilots Association*

2.36 High level concerns over the lower average experience levels for operating pilots were encapsulated by the views of AIPA. AIPA expressed concern that 'the widespread shift in emphasis on airline pilot recruiting...has and will continue to increase the risk of an aviation accident'.<sup>27</sup> While AIPA acknowledged that modern training systems place an emphasis on competency based approaches,<sup>28</sup> it believed that:

...the current minimum hours required...[to hold] a licence to act as a crewmember on regular public transport (RPT) [is] insufficient to provide the appropriate balance between technical skills, knowledge and experience that would enable a pilot to adequately perform that role in all reasonably foreseeable circumstances.<sup>29</sup>

2.37 AIPA described the solution to current shortcomings in pilot skills as 'multifolded':

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25 *Committee Hansard*, 27 May 2011, p. 7.

26 *Submission 12*, p. 13.

27 *Submission 6*, p. 3.

28 The issue of competency based training is discussed below in relation to term of reference (c) (dealing with current industry recruiting and training practices).

29 *Submission 6*, p. 5.

You have got to give the basic flying skills to the pilot to start with. The second thing is that you have got to teach them about the systems of the aeroplane so they can fault analyse and the third thing is that you have got to teach them how to use the automation of the aircraft properly and how to deal with it when it operates incorrectly. So you have got to teach people the basics of analysing what the automation is doing with aircraft right now. Modern aircraft are very complex and have many modes that you can use. ...[There] have been a number of accidents worldwide where the pilots simply got confused.<sup>30</sup>

2.38 AIPA called for a 'comprehensive review of the minimum experience requirements for Australian airline pilots to act as a crewmember on [RPT] operations [to] be undertaken by [CASA].<sup>31</sup> In terms of the scope of the review:

The ultimate purpose of the review should be to design a compulsory "pilot experience and safety management plan" (PESMP) that would be binding on commercial airlines operating into and out of, or operating in Australia. In turn, the essence of the PESMP would be to establish a compulsory risk management framework that would see lower experienced pilots having their piloting skills assessed, corrected and confirmed more frequently than experienced flight crew. The PESMP would also have to address a robust support and supervision requirement that would mitigate increased pressure on Captains operating with a low experience crewmember.<sup>32</sup>

2.39 Similar concerns were voiced by a number of groups and individuals that provided evidence to the inquiry, with particular emphasis on the following specific matters.

#### *Capacity to respond to emergency situations*

2.40 A number of submitters expressed concern that an inexperienced co-pilot would not be able to effectively support his/her pilot (captain) in high stress or emergency situations. VIPA, for example, described this as a latent risk in current airline operations

...we are seeing an emergent risk...[where] a relatively inexperienced airline captain will be faced with a situation where a low-experienced First Officer is unable to provide the Captain with the level of operational support required...[This will] increase the likelihood of an undesired outcome should an abnormal situation arise. VIPA believes that the obvious latent...nature of this issue and the increased demand for close supervision of the First Officer by the Captain has a negative impact on operational safety.<sup>33</sup>

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30 Captain Richard Woodward, *Committee Hansard*, 1 December 2010, p. 10.

31 *Submission 6*, p. 3.

32 *Submission 6*, p. 3.

33 *Submission 37*, p. 3.



2.41 VIPA did not believe that there were appropriately directed strategies in place to address the latent risk identified:

In isolation, the inherent risk of this situation could be dealt with by utilising the traditional mitigators of increased training and greater mentoring by the airlines, aligned with specific quality oversight of risk management and training by the regulator. VIPA is of the opinion that these risk control strategies are ineffective or completely nonexistent.<sup>34</sup>

2.42 Captain Klouth noted that the presence of a relatively inexperienced co-pilot 'puts the other pilot under more pressure to make up for the lack of experience', and that there was an increased risk that 'they may find themselves in a situation that neither pilot knows how to deal with effectively'.<sup>35</sup>

### *Cockpit authority gradients*

2.43 A number of submissions commented on the issue of cockpit authority gradients, which refers to the relative experience levels of a pilot (captain) and his/her co-pilot. A 'steep' cockpit authority gradient occurs where a pilot has substantially more experience than the co-pilot. In this situation, there is an increased risk that a co-pilot with relatively few flight experience hours will be less likely to question or challenge the judgement of the flight captain, even where the safety of a flight and its passengers may be stake. Captain Klouth explained:

...when you have a high cockpit gradient where you have a significantly experienced captain with a first officer who does not have much experience, then that can create a situation whereby maybe the first officer does not feel he can speak up.<sup>36</sup>

2.44 Further, a 'steep' gradient will increase the level of supervision and work required to be done by a captain in all circumstances, and this may increase the potential for accidents in both normal and emergency operating conditions.

2.45 A number of airline operators, while acknowledging that issues could arise from 'steep' cockpit authority gradients, pointed to significant aspects of organisational culture or operating procedure which can ensure that safety is not undermined.

2.46 Regional Express, for example, submitted that 'the industry has put a considerable amount of work in...[over] the last 15–20 years around...cockpit resource management [CRM] and...threat and error management'.<sup>37</sup> Mr Chris Hine, Flight Operations General Manager, commented that training in Regional Express was strongly geared to overcoming authority gradients, and such training was reinforced by the airline culture more broadly:

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34 *Submission 37*, p. 3.

35 *Submission 5*, p. 1.

36 *Committee Hansard*, 15 February 2011, p. 7.

37 *Committee Hansard*, 1 December 2010, p. 45.

...we have got a culture in the airline in which the first officers feel very supported in coming forward and indeed the captains feel...open to that feedback. That has been one of the fundamental changes in the last 20-30 years in aviation, that the [First Officer] should not just sit there and say nothing and make the captain look good.<sup>38</sup>

2.47 Virgin advised that, while the regulation of training in non technical skills or human factors (which deals with, inter alia, cockpit authority gradient issues) was somewhat deficient, the airline had pursued a best practice approach to training in these areas. Captain Howell advised:

[With regard to]...what is normally called in aviation circles non-technical skills or human factors training...the regulation has actually lagged in many ways...[and] industry best practice has gone well in advance of the regulation. Not only have we been consulting to CASA on the development of the new standard but we have set out to ensure that the standard that we achieve across our three airlines—Virgin Blue, V Australia and Pacific Blue—is at a standard that we would accept as being best practice.<sup>39</sup>

2.48 Mr Anthony Petteford, Oxford Aviation Academy, expressed the view that cockpit authority gradients were "very much a thing of the past" in modern airline operations.<sup>40</sup> Mr Petteford's views do not necessarily appear to be supported by a number of experienced Australian airline pilots.

2.49 The committee notes evidence from CASA advising that proposed new regulation CASR Part 121 will place restrictions on the crewing together of inexperienced pilots.<sup>41</sup>

#### *Multicrew pilot licenses*

2.50 AIPA outlined significant concerns in relation to MPLs, notwithstanding the very limited issue of such licences by CASA. AIPA observed that MPLs had been issued overseas on the basis of very low flight experience requirements, and could be issued in Australia on the basis of similarly low requirements:

...if [an MPL holder]...did the bare minimum they would have about double the hours it takes to get a drivers' licence in New South Wales. It is 120 hours to get a drivers' licence in New South Wales. It is 240 hours to get an MPL licence as a pilot, 40 of which can be flying and 10 of which are as pilot in command—total. So we can see one of those graduates come

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38 *Committee Hansard*, 1 December 2010, p. 45.

39 *Committee Hansard*, 18 March 2011, p. 5.

40 *Committee Hansard*, 25 February 2011, p. 82.

41 *Submission 12*, p. 19; CASA website, 'CASR Part 121 – Passenger Transport Services and Cargo Operations – Larger Aeroplanes', <http://www.casa.gov.au/scripts/nc.dll?WCMS:PWA::pc=PARTS121>, accessed 23 February 2011.

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into an airline and ultimately be given command of an airliner with no more than 10 hours ever in command of any aeroplanes.<sup>42</sup>

2.51 However, Swinburne University of Technology (SUT) noted:

In Britain the academically supported competency based model has been the basis for recruitment of new pilot intakes. The first multi-crew pilot licence (MPL) trainees have recently graduated and are currently undertaking the final stage of training to take up co-pilot positions with a British registered airline. The MPL is a low hour competency based pilot training model.<sup>43</sup>

2.52 AIPA submitted that experiences overseas with MPL pilots suggested that such pilots were not making the transition from simulator training to real flight effectively. AIPA was particularly concerned that such pilots could not take over from the chief pilot in the event that he or she was incapacitated (discussed above).<sup>44</sup>

### ***Proposals to ameliorate risks of lower average experience levels***

#### *Imposing mandatory minimum experience levels*

2.53 A number of submitters and witnesses supported the proposal to introduce a minimum experience requirement of 1500 hours for certain pilots. This proposal is discussed in detail below.

2.54 This issue of experience levels is related to the question of what proficiency standards are being achieved through the various training pathways that are intended to qualify graduates immediately for co-piloting roles (and thus with flight hours experience approaching the theoretical minimum established by the requirements for licence qualification). This is considered below in the discussion of cadet schemes and similarly tailored training courses.

2.55 In its supplementary submission, AIPA noted:

that the extensive risk mitigation strategies that now drive the supervision and mentoring of cadet pilots in Jetstar, while an excellent model for other operators is an overt recognition that experience acts as a risk mitigator and that compensating arrangements are necessary for low experience pilots.<sup>45</sup>

2.56 Indeed, Qantas Group in its answers to additional questions taken on notice on 25 February 2011, gives details of the level of supervision (which far exceeds the level of supervision for non-cadets) and includes acknowledgement of the need to treat cadets differently from direct entry pilots.

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42 *Committee Hansard*, 1 December 2010, p. 6.

43 *Submission 30*, p. 8.

44 *Committee Hansard*, 1 December 2010, p. 14.

45 *Submission 6, (Supplementary)*, p. 18.

Question 4 (Senator Xenophon):

Qantas' submission observes that, for cadets, the operational restrictions are tailored and materially different to that of a direct entry pilot, however the remainder of the paragraph which describes training and supervision in such a way it is not clear. Specifically:

- (a) What is included in the 1000 hours of training and how much actual flight time is provided?
- (b) When does the 18 months of further supervision begin and is there some form of competency assessment to end it?

Answer (a)

The 1000 hours includes 100 hours of simulator time and 185 hours flying time provided during ab initio training, including for the A320 Type Rating. An additional 20 hours of simulator time and 200 hours of flying time are included in the transition course and line training provided by Jetstar. Following Clearance to Line, cadets are rostered with experienced captains for a minimum of 500 hours. In total, this amounts to 1000 hours of training and close supervisory flying.<sup>46</sup>

Answer (b)

The 18 month period of close supervision commences on the completion of (a minimum of) 500 hours operating with an experienced captain following Clearance to Line. During this period, at least three competency checks will be conducted.<sup>47</sup>

Question 5 (Senator Xenophon):

Qantas' submission observes that, for cadets, the operational restrictions are tailored and materially different to (sic) that of a direct entry pilot. Does this not indicate that Jetstar recognises the need for risk mitigation of the cadets' lack of operational experience in contrast to its direct entry pilots?

Answer (Qantas):

This is not a recognition of 'risk'. All our cadet pilots are trained to be fully competent on the aircraft type they operate, in line with Jetstar's internal standards and CASA regulatory requirements. However, a cadet scheme must clearly be managed differently from the training process for a direct entry pilot. The cadet program approach is conservative and allows for close monitoring in the early stages of its introduction. It provides a broad

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46 *Answer to question on notice*, received 31 March 2011, p.15.

47 *Answer to question on notice*, received 31 March 2011, p.15.

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range of simulator and actual flying time to ensure that cadets meet internal Jetstar and regulatory standards.<sup>48</sup>

*Ensuring adequate experience levels of flight crews – operator policies*

2.57 Virgin advised the committee that, while it did not employ cadet pilots,<sup>49</sup> it had in place a policy relating to the relative experience levels of captains and co-pilots on its services—a so-called 'green-on-green' policy, which was intended to ensure that inexperienced pilots were not placed together to operate as flight crew.<sup>50</sup>

2.58 In answer to a question on notice Virgin advised that the policy was comprised of the following elements:

1. A flight crew member is deemed to be 'inexperienced' following completion of a type rating or command course (and the associated line flying under supervision), until achieving the following additional experience on the type in their respective flight crew station"
  - 100 flying hours and flown 10 sectors, within a consolidation period of 120 consecutive days; or
  - 150 flying hours and flown 20 sectors (with no time limit).
2. At the roster construction stage, the Aircrew Rostering Officer shall not roster flight crew together unless one or both crew members have achieved the minimum experience requirements listed above.
3. Once the flight crew rosters have been issued, and control of day-to-day rostering is passed to the Crew Controller, the following policy applies:
  - Where a published roster has to be varied for any reason the Crew Controller shall ensure that, as far as possible, one or both flight crew members meet the minimum experience requirement listed above; and
  - If the first officer does not meet the minimum experience requirement then the captain must have a minimum of 300 hours and 100 sectors total experience on that aircraft type.<sup>51</sup>

2.59 Virgin's approach was cited with approval by the Australian Federation of Air Pilots (AFAP), which submitted:

Our experience with the generically titled 'Low Cost Carrier' models in Australia supports the need to mix and match the levels of experience as an operation grows. Virgin Blue's entry into the industry is an example of successfully mixing experienced Captains with less experienced First Officers. In this case, the experienced Captains provided a solid mentoring

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48 *Answer to question on notice*, received 31 March 2011, p.15.

49 *Committee Hansard*, 18 March 2011, p. 22.

50 *Committee Hansard*, 18 March 2011, p. 16.

51 *Answer to question on notice*, received 12 April 2011, p. 2.

and training base for the airline to grow and develop and for those less experienced first officers to attain command early in their Virgin career.<sup>52</sup>

2.60 Qantas and Jetstar advised that, following clearance to line, cadets 'are rostered with experienced captains for a minimum of 500 hours' and then subjected to an 18-month period of 'close supervision'.<sup>53</sup>

2.61 A number of submitters and witnesses also indicated that they had in place policies relating to supervision and the imposition of operational restrictions on low-experience pilots. These are discussed below under term of reference (c), which relates to current industry practices to recruit and train pilots.

2.62 AIPA submitted that CASA should be required to develop and publish:

...a specific policy on the risk mitigation strategies for the employment of low experience pilots to both address the increased risk and to provide a standardised approach for all operators...<sup>54</sup>

#### *Increasing multi-crew operations training*

2.63 Mr Petteford urged the committee to consider a recommendation that all prospective RPT pilots be required to 'complete a two-to three-week course in multi-crew operations and crew resource management using both the turbine simulator and a classroom environment, before they embark on their initial type endorsement training'<sup>55</sup>. Mr Petteford explained that such a course would:

...provide pilots with highly relevant skills for our RPT operations...[and enable] the pilots to gain far more relevance and value from the type endorsement course itself. These skills will then form the core foundation in which new airline pilots will both build and grow their teamworking skills, which are absolutely essential in stressful emergency situations during which human beings have a tendency to revert to the law of primacy, which is a critical factor in RPT operations.<sup>56</sup>

2.64 Mr Petteford stressed that improving the ability of crews to communicate and adhere to standard operating procedures (SOPs) in highly automated environments would address the main causes of airline accidents, and would therefore improve flight safety within RPT operations 'overnight'.<sup>57</sup>

2.65 In relation to crew resource management, SUT explained:

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52 *Submission 41*, p. 3.

53 *Answer to question on notice*, received 31 March 2011, p. 5.

54 *Submission 6*, (*Supplementary*), p. 22.

55 *Committee Hansard*, 25 February 2011, pp 80-81.

56 *Committee Hansard*, 25 February 2011, pp 80-81.

57 *Committee Hansard*, 25 February 2011, p. 81.

Crew Resource Management is specifically focussed on the ability to lead or follow, and aims to develop abilities to communicate with associates, apply critical thinking skills and generally perform as a professional aviator.<sup>58</sup>

2.66 In answer to a question on notice, CASA advised that under proposed new regulation CASR Part 61:

...the new regulations for flight crew licenses, flying training organisations and training and checking organisations will introduce a multi-crew cooperation course which is modelled on the European MCC course. An MCC qualification will be required for all pilots flying multi-pilot aircraft.<sup>59</sup>

2.67 Mr Peter Boyd, an Executive Manager with CASA, noted that human factors training, which could address, for example, issues around cockpit authority gradients, was currently being implemented more broadly across the aviation industry. He explained:

[Human factors training]...is being mandated more widely at the moment within CASA, and not just for [CASR Part 61]. We have amended our current system and our current civil aviation orders to require human factors training across regular public transport operators. So that will include the next generation, if you like, of that type of training. In terms of time frame, the operators must submit their training plans to us by next week and they must have implemented those types of human factors training by June [2011].<sup>60</sup>

**The United States of America's Federal Aviation Administration Extension Act of 2010 which requires a minimum of 1500 flight hours before a pilot is able to operate on regular public transport services and whether a similar mandatory requirement should be applied in Australia**

2.68 Term of reference (b) required the committee to consider the United States of America's Federal Aviation Administration Extension Act 2010 [sic] (the US Act),<sup>61</sup> and in particular the requirement for 'a minimum of 1500 flight hours before a pilot is able to operate on [RPT]...services and whether a similar mandatory requirement should be applied in Australia'. A number of submissions addressed this proposal in general terms, however, the US Act itself was not the subject of detailed submissions.

2.69 Given the existing requirement that pilots (captains) of RPT must hold an ATPL, and that a condition of qualification for such a licence is a minimum of 1500

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58 *Submission 30*, p. 7.

59 *Answer to question on notice*, dated 11 March 2011, p. 11.

60 *Committee Hansard*, 25 February 2011, p. 113.

61 The full title is the Airline Safety and Federal Aviation Administration Extension Act of 2010, available at United States Government Printing Office website, <http://www.gpo.gov/fdsys/pkg/PLAW-111publ216/pdf/PLAW-111publ216.pdf>

hours flight time, the committee understood the proposal to be to impose a minimum requirement of 1500 hours as applying only to co-pilots (first officers).

2.70 As outlined above, the minimum requirement to act as a co-pilot on a RPT flight is the holding of a CPL, based on a minimum 150 hours (for those undertaking a commercial flight course) or 200 hours (for those coming through the general aviation pathway).<sup>62</sup> A MPL holder could act as co-pilot on the basis of 240 hours' experience, of which only 40 hours must be actual, as opposed to simulator, flight time.

### **Should Australia adopt a mandatory requirement of 1500 hours?**

#### *Opposition to proposal for a mandatory minimum 1500 hours' experience*

2.71 Many submitters and witnesses did not support the proposal that Australia adopt a mandatory requirement of 1500 hours' flight experience for co-pilots operating RPT flights.

2.72 AFAP, for example, supported the maintenance of current arrangements, subject to appropriate oversight and management of less experienced pilots:

...[AFAP] does not support the reduction (or increase) of mandatory flight time requirements. Our experience, such as at Virgin Blue, is that less experienced pilots can and should be incorporated into airlines, providing there is a solid existing experience base and sound internal check and training systems in place.<sup>63</sup>

2.73 AFAP also noted that 'many individual operators overlay these minima with higher internal minimum experience levels. These are often adjusted in response to market demands and other factors'.<sup>64</sup>

#### *Experience not an effective indicator of proficiency*

2.74 A common objection to the proposal for a 1500 hour minimum was that a bare requirement for minimum flight hours' experience would not necessarily equate to an adequate or certain level of pilot competency. CASA, for example, submitted that 'completing an arbitrary number of flight hours alone may not necessarily ensure competency to perform a task safely'.<sup>65</sup> The CASA submission stated:

Experience-based flying training is based on the accumulation of a prescribed number of hours for training activities, at the completion of which a flight test is undertaken. Assessment of performance in this context

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62 This is effectively a theoretical minimum given the usual requirements for specific endorsements and ratings needed to fly particular aircraft.

63 *Submission 41*, p. 2.

64 *Submission 41*, p. 3.

65 *Submission 12*, p. 10.



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may be less objective with results being less consistent than the criterion-referenced assessment required by competency based training.<sup>66</sup>

2.75 Similarly, SUT commented that 'quantity of training is no substitute for quality'.<sup>67</sup>

2.76 The Regional Aviation Association of Australia (RAAA) submitted that flight hours are not a useful determinant of a pilot's skill or likely levels of safety,<sup>68</sup> and noted that in many cases:

...junior pilots who join...[regional airlines as first officers (co-pilots)] with less than 1500 hours often excel when compared to pilots with higher initial total time but...less airline exposure.<sup>69</sup>

2.77 Virgin also noted that pilot experience was not universal in terms of its relevance to RPT services:

It is also relevant to consider the circumstances in which pilot experience is gained, ie aircraft type (light, commercial, military) and single pilot versus multi-crew as these cannot be considered equivalent for the purposes of assessing capability to operate RPT services safely.<sup>70</sup>

2.78 AIPA concurred with this analysis, noting that, while experience requirements had historically acted as a 'filter' for young pilots developing skills and experience in general aviation, a substantial number of flying hours based on a narrow set of flying conditions and experiences would not necessarily deliver a well-rounded learning experience. Captain Richard Woodward, a Vice President of AIPA, observed:

There is a common statement that one hour [of experience] repeated 2000 times is not much of a learning experience.<sup>71</sup>

2.79 Mr Petteford noted:

...not all general aviation experience is relevant to RPT operations and in some instances it can generate unsafe attitudes and practices which are not conducive to the operation of RPT aeroplanes.<sup>72</sup>

2.80 These comments were supported by anecdotal evidence suggesting that pilot standards emerging from the general aviation route are variable, and that a high

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66 *Submission 12*, p. 10. The issue of competency based training is discussed below in relation to term of reference (c), which deals with current industry recruiting and training practices.

67 *Submission 30*, p. 1.

68 *Submission 19*, p. 2.

69 *Submission 19*, p. 5.

70 *Submission 17*, p.1.

71 *Committee Hansard*, 1 December 2010, p. 3.

72 *Committee Hansard*, 25 February 2011, p. 80.

number of flight hours' experience does not therefore necessarily equate to proficiency for RPT purposes. Regional Express, for example, advised that it had previously encountered varying standards of pilot competency when recruiting on the basis of a relatively high minimum experience requirement. Mr Chris Hine, Flight Operations General Manager, explained:

We used...[2000 hours minimum flight experience] as our paper benchmark [for recruitment]. [However, we] got to the point where we were so concerned from a duty-of-care point of view about some of the things that we were finding in the interviews that we...met with our local CASA office and said, 'We wish to at least advise you that these are the standards we've seen.' It raised for us the fact that these were pilots who had what would be considered considerable experience levels, yet they did not have the standards that we felt were required.<sup>73</sup>

### *Unintended consequences for regional airlines*

2.81 A number of airlines contended that a mandatory requirement of 1500 hours' flight experience for pilots would have unintended adverse consequences, particularly in relation to the ability of regional airlines to recruit and retain pilots.

2.82 Captain Tim Berry, Director of Flight Operations, Tiger Airways, noted that, if a requirement for 1500 hours' experience were adopted in Australia, 'budding' pilots would have no choice but to seek training overseas as there are not sufficient opportunities for a pilot to gain 1500 hours' experience in the non-commercial aviation sector in Australia.<sup>74</sup>

2.83 Mr Petteford supported the view that the general aviation industry in Australia would not provide sufficient opportunities for pilots to attain the 1500-hour minimum.<sup>75</sup>

2.84 The RAAA noted that, unless any such requirement was 'grandfathered' for all existing RPT pilots, a number of pilots would be forced out into the general market for aviation pilots to achieve the mandatory minimum.<sup>76</sup>

2.85 The RAAA also pointed to problems retaining experienced pilots for regional airlines if the mandatory minimum were introduced. The RAAA submission explained:

One of...[the] biggest challenges for regional airlines is holding onto their pilots. As they become more experienced they become more attractive to the major, jet airlines – which can pay higher salaries and offer larger aircraft for pilots to fly...If regional airlines cannot hire pilots for RPT until

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73 *Committee Hansard*, 1 December 2010, p. 36.

74 *Committee Hansard*, 1 December 2010, pp 22 and 23.

75 *Committee Hansard*, 25 February 2011, p. 80.

76 *Submission 19*, p. 4.

they have 1500 hours, then it will be very difficult to secure them for any reasonable time before they move to the larger airlines, making it even more difficult than now to recover the very high costs of induction, check and training, etc that is a necessary part of getting a pilot into an RPT operation.<sup>77</sup>

2.86 Similarly, Regional Express warned of 'catastrophic implications' for regional airlines, as a 1500 hour mandatory minimum would lead to the cessation of pilot cadet schemes, which would become uneconomic if cadets were required to attain 1500 hours within such a scheme. This, in turn, would lead to 'increased recruitment of experienced regional pilots by the larger airlines', and 'serious safety implications for the smaller operators as they lose large numbers of experienced pilots'.<sup>78</sup> Regional Express noted as a relevant example its experience during a pilot shortage in 2007-08, in which the company lost 50 per cent of its pilots to recruiting by the larger airlines.<sup>79</sup>

2.87 This view was supported by the evidence of Virgin, which predicted an almost immediate effect on regional airlines:

Regional airline pilots tend to have accumulated relatively less experience at commencement, because the type of aircraft generally operated by those carriers enables a natural progression from general aviation. More experienced regional pilots in turn supply a significant proportion of the technical crew for the major Australian airlines.<sup>80</sup>

2.88 Virgin observed that the adverse effects of a mandatory minimum experience requirement would ultimately also impact on the ability of major Australian airlines to recruit experienced pilots:

It could...be expected that over time – and particularly in times of strong growth such as those experienced by the highly cyclical aviation industry in 2007 and 2008 – such a requirement could have a measurable impact on airlines such as Virgin Blue, with regional airlines anticipated to be subjected to severe labour shortages.<sup>81</sup>

2.89 In response to the concerns outlined above, AIPA acknowledged that a mandatory minimum as proposed could adversely impact on the 'smaller elements of commercial aviation'. However, AIPA contended that such 'market distortions' could be taken into account in the legislative scheme that imposed the requirement.<sup>82</sup>

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77 *Submission 19*, p. 3.

78 *Committee Hansard*, 1 December 2010, p. 36.

79 *Committee Hansard*, 1 December 2010, p. 36.

80 *Submission 17*, p. 1.

81 *Submission 17*, p. 2.

82 *Submission 6*, p. 3.

2.90 Specifically, AIPA proposed that any such requirement could be limited to 'pilots of jet public transport aircraft'.<sup>83</sup>

*Context of the US Act does not translate to the Australian aviation industry*

2.91 Lastly, the committee heard that Australian conditions are significantly different to those which drove the introduction of the 1500 hour requirement in the US. CASA identified a number of differences between Australia and the US in relation to pilot qualification:

For domestic flights conducted within the United States, co-pilots are not required to hold a type endorsement for the aircraft being operated and receive only the training the operator deems necessary to perform the co-pilot duties. For international operations, the co-pilot must be fully qualified, and must hold an aircraft endorsement, as this is an ICAO requirement.<sup>84</sup>

2.92 Further, CASA noted that 'there is a significant difference between the approach taken to basic flying in Australia'. It explained that, in the US, 'basic training can be conducted by flight instructors working independently of a flying school with very limited regulatory oversight'.<sup>85</sup> Where such training is conducted by an approved training organisation, a reduction in the minimum number of flying hours is granted.<sup>86</sup> In contrast, in Australia, 'all flying training for CASA issued licences must be conducted by the holder of an Air Operator's Certificate which authorises flying training'.<sup>87</sup>

2.93 Other points of distinction raised by CASA were:

- that 'a large portion' of training in the US is not based around competency based principles; and
- that aspects of the US training and checking requirements are 'less rigorous' than the systems in place in Australia.<sup>88</sup>

2.94 Qantas and Jetstar observed that the US Act allows for the recognition of 'non-flying training', and expressed a preference for 'academic training courses [that] will enhance safety more than requiring the pilot to fully comply with the flight hours requirement' (that is, competency based flying training).<sup>89</sup> While there was no evidence of how this process would work in practice, the committee notes that a

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83 *Submission 6, (Supplementary)*, p. 11.

84 *Submission 12*, p. 10.

85 *Submission 12*, p. 11.

86 *Submission 12*, p. 12.

87 *Submission 12*, p. 11.

88 *Submission 12*, p. 11.

89 *Submission 31*, p. 7.

similar provision in the Australian context, where competency based training is the norm, could impact on the operation of a mandatory minimum.

2.95 Given the factors identified above, CASA concluded that 'it is unclear...what, if any, safety issues would be addressed in Australia by increasing minimum hour requirements for co-pilots to an arbitrary 1500 hours'.<sup>90</sup> CASA did not support 'the requirement for co-pilots to hold an ATPL (with a minimum experience requirement of 1500 hours).'<sup>91</sup>

### ***Support for proposal for a mandatory minimum 1500 hours' experience***

2.96 In contrast to views opposing the introduction of a 1500 hour minimum, a number of submitters and witnesses supported the proposal.

2.97 AIPA contended that actual flight experience is qualitatively superior to theoretical or simulated approaches to pilot training:

...practical and appropriate piloting experience is a significant risk mitigator that cannot be replaced by theory or simulator training, only supplemented.<sup>92</sup>

2.98 AIPA also acknowledged that minimum experience requirements are but one factor in the production of competent pilots:

...hours alone is not a determinant...[of pilot competency]. There is obviously a minimum number of hours where you have enough experience to be self-reliant...but the other thing you need is competent training and certainly a mentoring program for the pilots.<sup>93</sup>

2.99 However, AIPA felt that the minimum flight hours' requirement must reflect 'a balance between skills, knowledge and behaviours versus the operational risk',<sup>94</sup> arguing that 'pathways to gaining operational experience should be focused on situations that reduce the exposure of the travelling public to the risk of an error caused by inexperience'.<sup>95</sup> Accordingly, AIPA's view was that:

...subject to appropriate supervision and mentoring, low experience pilots should enter the system through operations that employ non-jet aircraft with 50 or fewer seats. Proposals to employ low experience pilots on jet aircraft and larger non-jet aircraft should be possible, but only after rigorous controls are established and monitored.<sup>96</sup>

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90 *Submission 12*, p. 11.

91 *Committee Hansard*, 25 February 2011, p. 109.

92 *Submission 6*, p. 3.

93 Captain Richard Woodward, *Committee Hansard*, 1 December 2010, p. 4.

94 *Submission 6*, p. 5.

95 *Submission 6*, (*Supplementary*), p. 11.

96 *Submission 6*, (*Supplementary*), p. 11.

2.100 AIPA therefore supported the 1500 hour minimum for all pilots of jet public transport aircraft through the requirement to hold an ATPL and, 'until such time as the existing legislation is modified, that a minimum hours experience requirement be established for high capacity RPT aircraft captains and co-pilots'.<sup>97</sup>

2.101 While AIPA acknowledged an emerging international consensus that 750 hours 'may be an appropriate minimum', the ICAO requirement of 1500 hours' experience for an ATPL, which is binding on Australia, meant that this was the only mandatory limit that was practically achievable currently.<sup>98</sup>

2.102 Captain Klouth supported the proposal for a 1500 hour minimum, arguing that:

A person with 1500 flight hours will be more capable than a person with 200 flight hours. They will have been exposed to a full change of season and know how to cope with weather changes and generally have more knowledge about the environment they work in. To obtain an ATPL a person requires 1500 flight hours so that should be the minimum standard before they are permitted to operate on RPT services.<sup>99</sup>

2.103 Captain Klouth also pointed to certain factors, discussed above, as justifying a requirement of 1500 hours for both pilots, namely the need for a co-pilot to be able to support or possibly take over from the captain in an emergency, and the dynamics of a steep cockpit authority gradient.<sup>100</sup>

### **Current industry practices to recruit pilots, including pay-for-training schemes and the impact such schemes may have on safety**

2.104 A number of submissions commented on current industry practices relating to pilot recruitment, and the impact such practices might have on safety.

2.105 The committee received a considerable amount of evidence commenting on this issue, particularly pilot cadet schemes. In keeping with the focus of the terms of reference, the committee was interested to explore whether aspects of such arrangements have any adverse impacts on the quality of pilots and airline safety more generally.

2.106 In general terms, the main pilot recruitment/training options are:

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97 *Submission 6, (Supplementary)*, p. 11.

98 Captain Richard Woodward, *Committee Hansard*, 1 December 2010, p. 4. CASA is required to perform its functions in a manner consistent with Australia's obligations as a signatory to the Convention on International Civil Aviation (Chicago Convention) and any other agreement between Australia and any other country or countries relating to the safety of air navigation (CASA, *Submission 12*, p. 4).

99 *Submission 5*, p. 1.

100 *Committee Hansard*, 15 February 2011, p. 7.

- direct entry: where a pilot has pre-existing qualifications and can be employed directly—although they will typically require training in the SOPs of the employing airline; and may require training in the piloting of a particular aircraft (type endorsement); and
- cadet programs: courses for aspiring pilots that are tailored to producing pilots for RPT operations. Generally these are pilots who would not otherwise meet the airline's minimum experience requirements. These may be run in-house or through third-party providers. Various fee arrangements may apply: cadets may be required to pay their own fees (pay-for training schemes), or an airline may pay fees on a loan or bond basis.

## Cadet schemes

2.107 The CASA submission explained that:

...a cadet pilot scheme...sees recruits trained *ab initio* to CPL standards, with ATPL theory examination passes, following which these pilots are employed in co-pilot or second officer positions...<sup>101</sup>

2.108 CASA noted that cadet programs have been 'in existence for many years [in Australia], as well as overseas'.<sup>102</sup>

2.109 Tiger Airways also noted that cadet pilot programs have been 'well and truly established' overseas since the 1980s, and are now 'generally the preferred method of recruitment into an aviation career [in Europe]'.<sup>103</sup> Captain Berry stated:

In Europe, for years and years they have had pilot cadet schemes. I personally was involved with the KLM pilot cadet scheme...Lufthansa, Air France, British Airways and further afield, Emirates, Cathay and Singapore Airlines all have pilot cadet schemes, take pilots off the street and train them up to the standard they want and put them in their aircraft. And they have all been highly successful.<sup>104</sup>

2.110 Captain Berry noted that Tiger Airways did not currently employ any cadet pilots. However, he believed that Tiger Airways 'should be looking to cadet pilot schemes [in future]',<sup>105</sup> and that the airline supported cadet schemes as being one of a range of routes that should be available to potential pilots to become qualified.<sup>106</sup>

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101 *Submission 12*, p. 11.

102 *Submission 12*, p. 14.

103 Captain Tim Berry, Director of Flight Operations, *Committee Hansard*, 1 December 2010, p. 21.

104 *Committee Hansard*, 1 December 2010, p. 40.

105 *Committee Hansard*, 1 December 2010, p. 22.

106 *Committee Hansard*, 1 December 2010, p. 33.

### ***Increasing use of cadet training schemes***

2.111 A number of submitters and witnesses observed that Australian airlines are increasingly using cadet training schemes to recruit pilots. The Qantas and Jetstar submission observed that Australian carriers:

...have introduced a range of programs to train new pilots for the industry. Although the nature of these programs varies in the way the training is delivered, all are subject to approval by CASA.<sup>107</sup>

2.112 Mr Jim Davis, Managing Director of Operations, Regional Express, advised that a number of airlines were 'progressing towards training their own pilots', and that there was a trend for either airlines or 'large professional training organisations' to perform most pilot training.<sup>108</sup> Mr Davis advised that Regional Express ran its own in-house cadet training scheme.<sup>109</sup>

2.113 Virgin advised that it would be implementing a cadet scheme, and was in the initial stages of planning for the scheme.<sup>110</sup>

2.114 A range of factors were identified as driving the move toward cadet schemes. Qantas and Jetstar submitted that traditional routes through general aviation and the military were not sufficient to meet current and projected demand:

The demand for pilots in Australia and overseas is strong. The traditional pilot recruitment processes, such as sourcing pilots from General Aviation and the military, have proven to be insufficient to meet the needs of the Australian aviation industry in recent years...Forecasts from ICAO indicate that this region will suffer the greatest number of pilot shortages in the next twenty years.<sup>111</sup>

2.115 This view was supported by Tiger Airways, which submitted that it 'was recognised in the 1960s and [19]70s that these two routes into aviation would not provide pilots in the numbers that were required'.<sup>112</sup>

2.116 Captain Klouth, however, questioned the claim that general aviation could not provide sufficient numbers of pilots, and noted that cadet schemes were originally intended to supplement traditional sources of pilots:

Australia, as opposed to places like Europe and Asia, has had a quite significant general aviation industry and...there are still plenty of general aviation pilots who would love the opportunity to apply for and receive an

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107 *Submission 31*, p. 8.

108 *Committee Hansard*, 1 December 2010, p. 35.

109 *Committee Hansard*, 1 December 2010, p. 43.

110 *Committee Hansard*, 18 March 2011, p. 3.

111 *Submission 31*, p. 8.

112 *Submission 14*, p. 3.



interview with a major domestic airline. As for saying there are not enough pilots out there...[as] other people have mentioned, the cadet pilot system as it was usually done here was never intended to be the primary source of pilots. It was intended to supplement the usual stream. To say that there are no pilots out there is not entirely correct.<sup>113</sup>

2.117 AIPA also disagreed with claims of a shortage of pilots:

AIPA believes that Australia is not currently facing a shortage of qualified pilots and we further believe that there is an adequate distribution of operational experience among the pool of prospective pilot employees available to airlines.

AIPA believes that the approach taken by Jetstar, as a prime example, has nothing to do with a shortage of suitably qualified and experienced pilots.<sup>114</sup>

2.118 AIPA expressed the view that, in fact, cadet schemes could be acting as a disincentive to prospective pilots due to the associated costs.<sup>115</sup> Mr Bruce Buchanan, the Chief Executive Officer of Jetstar, however, asserted that cadet schemes offered another route for entry into the pilot profession. Mr Buchanan stated:

No good training system exists such as that which universities provide for doctors and lawyers. For a young person trying to become a pilot, there is a huge cost barrier to get into this field. We are trying to create mechanisms where people can get into this field, where they can afford to get into it no matter what their socioeconomic background is and where they can get to really good salaries very quickly.<sup>116</sup>

2.119 Tiger Airways also identified 'significant advantages' attached to cadet schemes, provided that they were properly regulated, employed pilot aptitude testing as a requirement for entry, and were tailored to the needs of individuals in the program.<sup>117</sup> The Tiger Airways submission observed that, while military trained pilots were historically 'sought after' by airlines, there was 'a growing realisation that the personality traits that suit a pilot to fly a high performance fighter in battle are not necessarily suited to the role of the airline pilot'. Pilots undertaking the general aviation route could be of 'mixed quality', due to a large portion of their experience being gained 'flying alone, uninstructed and un-mentored'.<sup>118</sup>

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113 *Committee Hansard*, 15 February 2011, p. 6.

114 *Submission 6, (Supplementary)*, p. 4.

115 *Submission 6, (Supplementary)*, p. 12.

116 *Committee Hansard*, 25 February 2011, p. 22.

117 *Committee Hansard*, 1 December 2010, p. 21.

118 *Submission 14*, p. 2.

2.120 Qantas and Jetstar also pointed to the consistency of training offered by cadet schemes, as compared to the experience gained through the general aviation pathway.<sup>119</sup>

2.121 Mr John McCormick, Director of Aviation Safety, CASA, noted that cadet schemes could offer advantages in terms of providing cadets with a stronger exposure to an airline's operating procedures and safety culture. He explained:

[Cadet schemes are]...in a lot of ways, very good for someone who is going to have a career in the airline, because right from the start there is a certain amount of inculcation of the principles of safety, and there is perhaps even by osmosis a...carryover of the character of the organisation and the way it operates. That [is beneficial]...for the ethos...of flight deck management...of how the crew cooperate, of how the captain and the first officer cooperate.<sup>120</sup>

2.122 These views were supported by Regional Express. The committee heard that the Regional Express in-house cadet scheme currently supplies 100 per cent of its new pilot intake. Mr Davis explained that one of the drivers behind the scheme was the issue of pilot quality:

...a few years ago we did recruit from general aviation using minimum experience requirements. We typically required 2,000 or 3,000 hours to get a pilot into Rex. We were not happy with what we were getting—we saw some standards there that did not meet our requirements—and we started looking at a cadet scheme.

2.123 In terms of pilot quality and safety, Mr Davis commented:

I see this as a very positive trend, I see this as an increase in safety, because we are getting the standard of pilot that we want out of our own training schemes when we start from day one, *ab initio*.<sup>121</sup>

2.124 Virgin, however, reported that the quality of pilots sourced through the general aviation pathway was adequate for its recruitment purposes. Captain Howell noted that Virgin:

...have not had any trouble recruiting applicants [through general aviation] that meet our standards. We are quite comfortable that our selection process is robust and shows a good correlation between recruitment process and success as an operating pilot.<sup>122</sup>

2.125 An additional driver for Regional Express to establish an in-house cadet scheme was that this allowed the business to establish a relatively secure pilot

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119 *Submission 31*, p. 10.

120 *Committee Hansard*, 25 February 2011, p. 116.

121 *Committee Hansard*, 1 December 2010, p. 36.

122 *Committee Hansard*, 18 March 2011, p. 12.

workforce against the historical trend for pilots to move from regional operations to the larger commercial airlines such as Qantas. The committee heard that Regional Express had suffered a dramatic loss of pilots during a recent pilot shortage, and the scheme offered a greater potential for the airline to retain pilots for a reasonable period.<sup>123</sup> This was because the Regional Express scheme included financing arrangements intended to create a financial incentive or bond for pilots to remain with the company. Mr Davis explained:

...cadets enter into a financing arrangement with the company, [whereby Regional Express]...actually supply three-quarters of the cost of training [which is approximately \$88,000]. They supply one-quarter up front. After six years, we will forgive a quarter of the cost of training, so the cadet then only has to pay three-quarters of the total cost of training, but half of that total cost is a HECS type scheme. They pay it back to us at low interest. So the incentive to stay with Rex is because, as soon as they leave us, at whatever stage of the repayment schedule they are at, they have to pay us what they owe.<sup>124</sup>

2.126 AIPA identified the introduction of the low-cost carrier (LCC) model to Australia as a significant reason for the increased use of cadet schemes:

...cost pressures brought about by the Low Cost Carrier (LCC) model have resulted in airlines offering terms and conditions that are unattractive to experienced pilots. The likelihood of increased pilot turnover from pilots seeking more equitable terms, combined with the need to generate financial ratios acceptable to their owners, has resulted in airlines seeking ways to circumvent the traditional approach to hiring pilots with experience in commercial operations.<sup>125</sup>

2.127 According to AIPA, a key feature of the LCC training model is to offer 'increasingly poor terms and conditions'. AIPA submitted that such approaches were:

...cost-driven models consistent with an oversupply of pilots. AIPA asserts that those models are entirely out of step with the now ubiquitous forecasts of a worldwide shortage of pilots that airlines and their representative organisations are currently scrambling to address in other ways.<sup>126</sup>

2.128 AFAP, although it supported a 'variety of pathways to an airline career', was concerned about:

...growing over-reliance on the 'pay-for-training' or cadetship model. These programs have an intrinsic commercial incentive for the parties to get through the training by the quickest allowable means. This risk needs to be

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123 *Committee Hansard*, 1 December 2010, p. 35. This issue is discussed further in relation to term of reference (d), which relates to pilot retention.

124 *Committee Hansard*, 1 December 2010, p. 41.

125 *Submission 6*, p. 7.

126 *Submission 6*, p. 7.

managed and closely monitored. It also has the potential to undermine internal training systems and traditional career paths to an airline career.<sup>127</sup>

2.129 Captain Klouth noted that certain business models employing cadet schemes exhibited significant financial incentives for airlines:

There are some in the aviation industry who consider that this form of experience is not relevant to a modern airline and the best and safest way forward is to get young men and women, train them to the minimum hours allowed, load them up with significant debt and then pay them at a third of the cost of experienced first officers. I am yet to see any evidence that the cadet system, as it is currently being run, is anything other than a cost-benefit to the airline.<sup>128</sup>

2.130 Similarly, AIPA submitted that:

...cadet schemes such as those engineered by Jetstar appear to be motivated by converting a cost centre into a revenue centre as well as transmitting business to offshore entities.<sup>129</sup>

AIPA is firmly of the view that the recent exposure of the so-called 'Jetstar Cadet Scheme' has shown it to be nothing other than a scheme to avoid Australian employment and tax rules and to shift work offshore as a means to reduce labour costs. The evidence on cadet schemes shows some schemes are usurious and a long way from the philanthropy that some...claim.<sup>130</sup>

### ***Adequacy of cadet scheme based pilot training***

2.131 CASA submitted:

...[Provided] there is an appropriate ongoing training and development system in place, there is no evidence to suggest that [the cadet training type] approach has resulted in any diminution of safety standards.<sup>131</sup>

2.132 CASA pointed to the balance of elements in Australia's approach to initial pilot training, noting that this 'combines a rigorous competency based flying training program with the specification of a required minimum number of flying hours'. Such an approach:

...recognises the need to ensure competency while at the same time acknowledging that the exposure gained by flying experience is also an important factor in developing piloting skills.<sup>132</sup>

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127 *Submission 41*, p. 2.

128 *Committee Hansard*, 15 February 2011, p. 2.

129 *Submission 6, (Supplementary)*, p. 2.

130 *Submission 6, (Supplementary)*, p. 4.

131 *Submission 12*, p. 11.

132 *Submission 12*, p. 9.

2.133 Similarly, SUT commented:

The integration of targeted high level educational and practical training programs with advanced technology aircraft and associated training aids delivers a graduate equipped with both the technical and non technical skills required for a flight crew member.<sup>133</sup>

2.134 Mr Buchanan commented:

...the combination of training elements has proved the most effective way to get pilots trained to deal with the issues that they are going to deal with. So a combination of a lot of practical time, getting them ready for multicrew jet operations, and then simulator time where they are practising different scenarios and events, and flying time, has been proven the best by studies around the world to prepare pilots to fly a modern jet aircraft.<sup>134</sup>

2.135 Mr Anthony Petteford, OAA, commented:

...it has been quite clearly proven over the years that quality cadet programs, whilst requiring significantly fewer hours of flying experience than the GA pilot route, do enhance RPT operational safety as opposed to reducing it...<sup>135</sup>

2.136 The Regional Express submission provided an empirical analysis of the performance of cadet pilots and 'traditional' pilots. Appearing before the committee, Mr Hine explained the findings of this analysis as follows:

[Regional Express has a system which] digitises all of our check reports. Every pilot that does a check is scored on a range of variables from 1 to 5, 1 being unsatisfactory and 5 being the highest standard. For the last five years all of the data from every single check report that is completed has gone into an electronic database. We are able to query that database and ask it to give us the average scores of cadets versus what we will call 'traditional' first officers. We found that the scores were almost identical. In the first year there was a less than three per cent variation across the board, and certainly into the second year we found that the data showed that the cadet pilots started to outperform the traditional, more experienced pilots.<sup>136</sup>

2.137 In discussing the very low failure rate for cadets (at around five per cent), Regional Express representatives noted that the selection processes for entry into its cadet scheme ensured that candidates possessed a high aptitude for pilot training. Mr Davis explained:

When we started the cadet scheme we did change our recruitment methods. We became far more selective. We introduced a different simulator test, we

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133 *Submission 30*, p. 1.

134 *Committee Hansard*, 25 February 2011, p. 25.

135 *Committee Hansard*, 25 February 2011, p. 16.

136 *Committee Hansard*, 1 December 2010, pp 38-39.

introduced the pilot aptitude test, we introduced an academic test and we also introduced several ranges of interviews. They do two or three interviews.<sup>137</sup>

2.138 Qantas and Jetstar also reported that its cadet graduates attained equivalent levels of skill and competency to direct entry pilots:

Irrespective of the originating recruitment program all QantasLink pilots must undergo the same airline training path and demonstrate the same high level of flying skills in a range of competency assessment milestones prior to unrestricted line operations. This is evident in the performance of pilots completing each program, as over 94 percent of total checks of pilots in the Trainee/Cadet program record satisfactory results, which is almost equal to the results of pilots in the Direct Entry program.<sup>138</sup>

2.139 Further, Qantas and Jetstar noted that the cadet pilot scheme employed selection processes designed to identify candidates with the appropriate skills and aptitude for piloting modern aircraft:

It is important to note that Cadet Pilot Training processes provide three distinct opportunities to vet candidates; initial entry screening processes, meeting the requirements of the competency based training program and then via additional screening prior to a pilot being checked to line.<sup>139</sup>

2.140 Qantas and Jetstar also noted that:

Following the completion of the training and oversight process for a new cadet pilot the operational restrictions are tailored and materially different to that of a direct entry pilot.<sup>140</sup>

2.141 For example, in relation to Jetstar pilots:

Operational restrictions have been developed to quarantine a cadet pilot to only operate with approved Captains for the first six months of line operations. In addition, extra check points (simulator checks/line checks) and training details have been developed by Jetstar to increase the training and oversight of the cadet during his/her initial period of operations. Restrictions on the cadets during their initial phases also include a lower cross wind limit for landings and operating restrictions on narrow and short runways.<sup>141</sup>

2.142 AIPA submitted that the use of flight simulators, which was prevalent in cadet style training schemes, did not adequately prepare pilots for real life flying:

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137 *Committee Hansard*, 1 December 2010, p. 40.

138 *Submission 31*, p. 8.

139 *Submission 31*, p. 9.

140 *Submission 31*, p. 9.

141 *Submission 31*, p. 9.

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...the use of flight simulators and other synthetic flight training devices cannot adequately replicate the physical environment of real aircraft responses to the vagaries of actual weather phenomena and busy air traffic services that are critical to *ab initio* pilots developing sound situational awareness, aircraft handling skills and coping behaviours under stress.<sup>142</sup>

2.143 AIPA submitted that there was an increasing risk of airline safety incidents or accidents in Australia, which could be seen as part of an 'increasing trend for accidents worldwide', largely due to 'poor training, automation reliance by pilots and poor manual flying skills'.<sup>143</sup> Captain Woodward explained:

We see similar elements developing in Australia. We are not necessarily predicting an accident tomorrow, but we see there is a potential in the industry to go down the same route that they have seen in Europe and in the United States—decreasing experience levels and dumbing down of training.<sup>144</sup>

2.144 AIPA was particularly concerned about the use of cadet schemes in the context of LCCs. It noted that:

Few, if any, LCCs invest in any training infrastructure and generally favour third party training providers. The cost of training is moved off the balance sheet, the profit and loss account is improved and the pilots now carry a financial burden that acts as a disincentive to start again with another operator.<sup>145</sup>

2.145 AIPA was particularly concerned that LCCs:

...typically deny any linkage between experience and operational risk and make little or no effort to establish supervisory and mentoring schemes to manage that risk.<sup>146</sup>

2.146 In contrast to AIPA's concerns over LCC cadet scheme models, the association identified the Regional Express cadet scheme as a successful model. In relation to this scheme, Captain Woodward commented:

I heartily endorse the Rex cadet scheme system, providing there is proper mentoring and training. They are bonding those pilots for six years. We talked to the Rex people and went and looked at their facilities. They said that if they could get six or seven years out of a pilot they accept that they will move on. So they have come to grips with the constant loss to the bigger side of the industry.<sup>147</sup>

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142 *Submission 6*, p. 5.

143 *Committee Hansard*, 1 December 2010, p. 3.

144 *Committee Hansard*, 1 December 2010, p. 3.

145 *Submission 6*, p. 7.

146 *Submission 6*, p. 8.

147 *Committee Hansard*, 1 December 2010, p. 16.

2.147 The AIPA submission stated:

AIPA supports the Rex approach in which the company created its own training school, guaranteed employment for the graduates and provided significant financial incentives for the trainees to achieve high standards.<sup>148</sup>

2.148 AIPA called for the Commonwealth Government to set standards relating to the operation of cadet schemes.<sup>149</sup>

*Consistency with competency based approaches to training*

2.149 Many submitters and witnesses highlighted the fact that cadet schemes in Australia are designed around a competency based approach to training, which was said to be recognised as the best practice approach.

2.150 Qantas and Jetstar, for example, contrasted the competency based approach with one that focuses solely on pilot hours:

There is considerable international evidence and practice to suggest that competency based training as an approach delivers better safety outcomes than focusing on quantitative training measures.<sup>150</sup>

2.151 The Qantas and Jetstar submission noted that the trend towards competency based training, as opposed to 'purely experiential training', was 'consistent with broader educational training trends and supported by a number of studies comparing training approaches'.<sup>151</sup>

2.152 In particular, Qantas and Jetstar pointed to a review of pilot training practices conducted by the ICAO in 2003, which was undertaken in recognition of changes in the nature of aircraft and piloting demands post Second World War.<sup>152</sup> The review had led to a greater emphasis on competency based training and the development of the MPL.<sup>153</sup> Such developments demonstrated that:

...international regulatory bodies such as ICAO and representative industry bodies such as IATA agree that the safety of commercial airline operations are best ensured through a well designed and managed competency based approach to pilot training.<sup>154</sup>

2.153 Mr Alan Joyce, Qantas Chief Executive Officer, noted, however, that the company continued to value experience. He stated:

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148 *Submission 6*, p. 8.

149 *Committee Hansard*, 1 December 2010, p. 16.

150 *Submission 31*, p. 3.

151 *Submission 31*, pp 5-6.

152 *Submission 31*, p. 3.

153 *Submission 31*, p. 4.

154 *Submission 31*, pp 4-5.



I want to emphasise that moving towards competency based training does not mean devaluing the merits of experience, or at least the right kind of experience. On the contrary, we are very proud of our senior experienced pilots. We value the wisdom that comes with that experience. We think young pilots, however well trained, can always benefit from the observation of more experienced pilots and the mentoring that they provide,<sup>155</sup>

2.154 Similarly, SUT commented:

The International Air Transport Association (IATA) is currently working with the International Civil Aviation Organisation (ICAO) to 'modernise and revolutionise training and qualification schemes, focussing on competency based training'.

Worldwide there is increasing support by authorities and airlines for high quality competency based training models and the increasing enhancement of these programs with educational delivery.<sup>156</sup>

2.155 On this issue, CASA noted that the competency based approach for training pilots had been in place in Australia for 'almost two decades', and that such an approach 'is the basis for all Vocational Education and Training conducted in Australia, under the auspices of the Australian Quality Training Framework'.<sup>157</sup>

2.156 CASA identified a number of proposed improvements to training regulation through proposed CASR Parts 141 and 142, and CASR Part 61, which would apply to flight training operators and flight crew licensing respectively. In relation to CASR Part 61:

The proposed regulations recognise that both aircraft captains and co-pilots should receive equivalent training and demonstrate the same essential levels of proficiency to achieve safety of flight operations. Consequently, the introduction of CASR Part 61 will [inter alia] introduce the requirement for co-pilots to also hold command instrument ratings and command aircraft endorsements (type ratings) and to be assessed against the same standards applicable to aircraft captains.<sup>158</sup>

2.157 In addition to proposed new regulations, CASA advised that it had implemented a number of safety initiatives relating to the flying training sector since 2004, culminating in the establishment of a flight training and testing office in 2008. This measure had been 'highly successful in driving improvements in the standard of graduating instructors'.<sup>159</sup>

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155 *Committee Hansard*, 25 February 2011, p. 3.

156 *Submission 30*, p. 8.

157 *Submission 12*, p. 9.

158 *Submission 12*, p. 12.

159 *Committee Hansard*, 25 February 2011, p. 110.

2.158 CASA also drew the committee's attention to its establishment of a Flying Standards Branch (FSB) within the flight training and testing office, which is:

...responsible for practically assessing pilot proficiency standards, overseeing pilots that have been appointed as Approved Testing Officers...and assisting the flying training sector.<sup>160</sup>

2.159 The FSB had initiated or was developing a number of programs, including regular testing of approved testing organisations (ATOs), publication of an ATO manual, conduct of industry flight tests and conduct of a formal training and assessment course for ATO applicants.<sup>161</sup>

2.160 Finally, CASA noted that there were two 'key mechanisms to allow CASA and industry to work together to review pilot training standards'. Mr McCormick explained:

There is the flying training panel, which CASA formed to provide strategic advice on flying training matters. This panel is chaired by industry and meets quarterly. There is also the flight crew licensing subcommittee of the standards consultative committee, CASA's industry chaired committee, which brings together CASA staff and representatives from a diverse range of aviation industry groups to work jointly during the development phase of regulatory material.<sup>162</sup>

### ***Third party providers of cadet training***

2.161 As noted above, cadet schemes may be run in-house by an airline, such as the Regional Express approach, or by a third party provider, such as the Oxford Aviation Academy (OAA). Tiger Airways observed that there had been a trend away from airlines running their own cadet schemes, with such training being outsourced to third-party training providers. The Tiger Airways submission commented:

Typically the programme will be built around 250 flying hours. The academic requirements and flight tests will all be conducted to Captain standard although the licence issued is 'frozen' at the First Officer level until the pilot has achieved minimum on the job experience requirements (typically 1500 hours).<sup>163</sup>

2.162 The committee received submissions and evidence from, and in relation to, a number of institutions that act as third-party providers of cadet training schemes and/or flying and non-flying aviation programs.

2.163 In relation to OAA, Qantas and Jetstar noted:

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160 *Submission 12*, p. 12.

161 *Submission 12*, p. 13.

162 *Committee Hansard*, 25 February 2011, p. 111.

163 *Submission 14*, p. 2.

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Oxford Aviation Academy has trained approximately 24,000 airline pilots for 80 airlines including a wide range of full service, low cost and charter carriers such as British Airways, BMI, Air France, Ryanair, EasyJet and Gulf Air. Oxford Air Training School (the pre-cursor to Oxford Aviation Academy) was established in 1964 when they provided their first courses to...[the airlines that went on to become] British Airways.<sup>164</sup>

2.164 A submission from OAA advised that the company had been a 'fully-fledged airline flying school since 1960', and focused on a 'core business' of 'teaching pilots how to fly (*ab initio* and type specific), as well as cabin crew and maintenance staff'.<sup>165</sup>

2.165 The committee also received a submission from SUT, which described itself as:

...one of the predominant providers of Aviation tertiary programs and pilot training in Australia with over 470 Aviation students currently enrolled in programs from VET, undergraduate degree, and postgraduate coursework programs.<sup>166</sup>

2.166 Professor John Beynon, Dean of the Faculty of Engineering Services and Industrial Sciences, SUT, advised that, in addition, the university's program aimed to support a broad range of graduate outcomes:

Although in cooperation with Oxford Aviation Academy we are delivering the Jetstar cadet pilot program and in the recent past the Qantas cadet pilot program as part of an associate degree, most of our pilot training programs are not focused on a particular airline. This enables our graduates to choose rather than to go into either general aviation or commercial airlines or, indeed, into management careers in airline or airport operations. The academic content, while tailored for a career in aviation, also serves our graduates well for a wider range of careers in the tradition of undergraduate education.<sup>167</sup>

2.167 SUT cited an empirical study which supported a conclusion that:

...the best performing pilots had graduated from collegiate accredited flight programs with aviation degrees and had received advanced (post-Private) pilot training in college.<sup>168</sup>

2.168 However, SUT suggested that standardisation of third-party aviation training providers could be considered:

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164 *Submission 31*, p. 10.

165 *Submission 29*, p. 1.

166 *Submission 30*, p. 1.

167 *Committee Hansard*, 9 March 2011, p. 79.

168 *Submission 30*, p. 7.

In Australia there are a number of university aviation providers whose programs have been developed through their self accrediting status. Benefit in standardisation could be gained through accreditation of these programs through an appropriate professional body such as occurs through the Aviation Accreditation Board International in the United States.<sup>169</sup>

2.169 Professor Beynon also noted that the institution would welcome a recommendation from the committee that the 'progression of trained pilots in the industry be tracked', and noted that the university was 'preparing a research proposal to monitor the performance of recently trained pilots from a selection of pathways to enable a quantifiable comparison to be made'.<sup>170</sup>

2.170 The committee heard that some submitters and witnesses were concerned about the quality of training provided by third-party training providers, and particularly the potential for such arrangements to lead to confusion or inadequate knowledge regarding SOPs. Captain Klouth, for example, submitted:

Having experienced in-house training and pay for training, the in-house training prepares one better for line training and gives a better foundation of knowledge of the aircraft. I did my A320 rating with Alteon which is a Boeing owned company. I was not provided with cockpit diagrams on which to practise procedures (colloquially referred to as paper tigers), provided with any systems manuals (other than those that were purchased from Jetstar), with which to revise the computer based training and had simulator instructors who had never actually flown the aircraft. The instructors were not familiar with the airline operating procedures and would actually speak disparagingly about the airline that I was to be employed by.<sup>171</sup>

2.171 While Captain Klouth could point to an exception regarding the generally poor quality of third-party training, he concluded that such training:

...provides little more than an endorsement approved by CASA. It does not provide value for money and does not prepare a new pilot adequately for line training.<sup>172</sup>

2.172 Similarly, AIPA was concerned that:

...training schools may not be producing a consistent product and that low end operators may not be value adding to their employees' experience. It may be instructive if the [Productivity Commission] PC examined whether there is really a shortage of suitable candidates for the bigger airlines and, if there is, the underlying reasons. Similarly, the PC or the Bureau of Infrastructure, Transport and Regional Economics (BITRE) should

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169 *Submission 30*, p. 5.

170 *Committee Hansard*, 25 February 2011, p. 81.

171 *Submission 5*, pp 2-3.

172 *Submission 5*, p. 3.

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investigate the likely trajectory of Australian domestic airline pilot employment to inform the debate and future planning for the training industry.<sup>173</sup>

2.173 Mr Stephen Phillips, who appeared in a private capacity, noted that the commercial nature of third-party training meant it was unlikely that training organisations would train students to a standard above the regulatory minima required to achieve a pilot licence, as this would involve increased cost to those students. While the regulatory minima were 'quite reasonable' to achieve a 'level of competency', this was 'not necessarily the level of competency that [was appropriate for a commercial RPT pilot]'.<sup>174</sup>

2.174 Captain Woodward considered that the minimum regulatory standards were 'adequate', but noted that the aim of pilot training should be to exceed these levels. However, he observed that 'training is always pitched at the minimum standard, because training costs a lot of money'.<sup>175</sup>

2.175 Captain Dick MacKerras, Technical, Safety and Regulatory Affairs Adviser for AIPA, commented that the current regulations were not developed with LCC business models in mind, and it was these types of carriers that tended to pursue minimum compliance strategies:

...the lower the cost of the carrier the more that minimum compliance becomes a flaw, because that is their target. The problem is that the existing legislation never envisaged that. It was written around reasonable people behaving reasonably.<sup>176</sup>

2.176 Mr Petteford stressed that third-party training must be delivered in partnership with airlines. He noted that 'if you simply give your type endorsement training to a third party without having created any bonds then that is a recipe for disaster'.<sup>177</sup>

2.177 Virgin indicated that it customised third-party endorsement training to ensure that such training accurately reflected the company's SOPs and flight operations. Captain Howell explained:

In terms of the endorsement training, it is possible to take a pilot who has taken a 'plain vanilla' endorsement and provide added training to get them competent to operate in our area, but it is actually advantageous for us to modify the simulator training package such that, when they have come out of the simulator training, they are familiar with how we operate the aeroplane, where we operate the aeroplane and the slight variations from

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173 *Submission 6, (Supplementary)*, p. 12.

174 *Committee Hansard*, 18 March 2011, pp 32-33.

175 *Committee Hansard*, 25 February 2011, p. 40.

176 *Committee Hansard*, 18 March 2011, p. 45.

177 *Committee Hansard*, 25 February 2011, p. 87.

the way we might operate the aeroplane to the way that Boeing might for other customers.<sup>178</sup>

2.178 AFAP commented that, although it had a preference for in-house training, third-party training providers were a part of the aviation industry landscape and should be subject to direct regulation by CASA:

Our strong preference is that the endorsement training of those pilots by the airlines be conducted in-house, and for that in-house training to be supported by a solid internal experience base and a sound check and training system. We do, however, recognise the advent, particularly over the last 10 years, of third-party training providers, but would fully support those providers being regulated to the same standards as those that apply to the air operator certificate holders.<sup>179</sup>

2.179 The committee notes that the proposed new regulation CASR Parts 141 and 142, relating to flight training operators and flight crew licensing, propose that third-party training organisations that provide training either independently to individuals or in concert with aircraft operators, must be responsible for the training they provide or take shared responsibility with the aircraft operator. Such relationships are not currently subject to direct regulation.<sup>180</sup> CASA advised that CASR Part 142 'is under review as a matter of priority and has now been progressed to the Office of Legislative Drafting and Publishing'.<sup>181</sup>

2.180 Mr Petteford noted that CASR Part 142 was based on ensuring conformity of training quality systems between airlines and third party training providers. Citing current European arrangements as an example, he explained:

...under the European regulations, it is a requirement that where you are working with an AOC holder of multipilot operations, the quality systems must harmonise together, and so there has to be an oversight by one of the quality systems, whether it is from the AOC or the training provider overseeing the airline quality system. The quality system dovetails it together and that is the way it works. That is the foundation on which the [CASR Part] 142 concept comes about. It is the mutually working together, which should be through the safety management and the quality management systems.<sup>182</sup>

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178 *Committee Hansard*, 18 March 2011, p. 17.

179 *Committee Hansard*, 25 February 2011, p. 55.

180 Australian Transport Safety Bureau, 'Go-around event Melbourne Airport, Victoria, 21 July 2007, VH-VQT, Airbus Industrie A320-232', ATSB Transport Safety Report, Aviation Occurrence Investigation AO-2007-044 (Final), p. 24. This issue is discussed further in relation to term of reference (h), relating to reporting of incidents.

181 *Submission 12*, p. 30.

182 *Committee Hansard*, 25 February 2011, p. 88.

## Pay-for-training approaches

2.181 The committee received a significant amount of evidence regarding pay-for-training arrangements and, more broadly, the various means or mechanisms by which trainee pilots are able to fund the costs of their training.

### *Pay for training*

2.182 Apart from cadet training schemes—in which, as noted above, it is common for cadets to pay the costs of, or to raise a debt against the costs of, their training—the committee understood this term to apply also to the practice of airlines requiring employee pilots to bear the cost of aircraft type endorsements.

### *Criticisms of pay-for-training approaches*

2.183 A number of submitters and witnesses outlined concerns regarding pay-for-training schemes.

2.184 The AIPA submission argued that current training practices have departed from historical approaches, whereby the costs of *ab initio* training (that is, training to receive the relevant pilot's licence and instrument rating) was generally borne by the individual, and subsequent training (such as training to receive type endorsement in a particular aircraft) was borne by the employer. AIPA submitted:

Two inherently industry damaging and risk exacerbating schemes were introduced to Australia by LCCs. The more common 'pay-for-training' schemes refer to postgraduate training where the employer transfers the cost of training to prospective employees.<sup>183</sup>

2.185 AFAP expressed concern that pay-for-training approaches could create an 'intrinsic commercial incentive' for trainees to be qualified as quickly as possible, and commented that this risk would need to be 'managed and closely monitored'.<sup>184</sup>

2.186 Mr Phillips commented that, although he did not believe that flying schools were graduating pilots who patently lacked competency, there may be students being passed who were at the margins of proficiency. He stated:

I believe that, at the end of the day, no school will graduate someone that they really believe is unsafe. [However, they]...will graduate people who they are not overly comfortable with.<sup>185</sup>

2.187 Mr Phillips noted that, with the exception of some flying schools, such as OAA, most third party providers did not employ selection processes to ensure a high quality of student pilots. Mr Phillips indicated that he would support the introduction

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183 *Submission 6*, p. 7.

184 *Submission 41*, p. 2.

185 *Committee Hansard*, 18 March 2011, p. 33.

of such a requirement in the case of people seeking to obtain a CPL (as opposed to a person seeking a recreational or Private Pilot Licence (PPL)).<sup>186</sup>

2.188 The VIPA considered that employer funded training had in the past 'proved to be an effective entry-risk mitigator', and that the shifting of pilot training costs on to pilots carried two 'significant' risks:

- experience and suitability has been superseded by ability to 'buy' or 'finance' a job; and,
- entry risk mitigation is severely reduced due to no syllabus or standards control of the training provider by the airline.<sup>187</sup>

2.189 Further, VIPA noted:

...the related effects on flight safety, either directly through reductions in control over flight standards or indirectly as a response to changes in corporate culture and the social welfare of pilots, have not been adequately researched or debated.<sup>188</sup>

2.190 AIPA was concerned that pay-for-training schemes resulted in cadet pilots beginning their careers with significant levels of debt,<sup>189</sup> and referred to overseas examples of cadets declaring bankruptcy 'because they cannot afford to live on their wages'.<sup>190</sup> AIPA noted that, in the context of a projected increase in demand for pilots in Australia and overseas, pay-for-training schemes could act as a disincentive to would-be pilots. This was compounded by the reduction in entry-level salaries for cadet pilots:

If we do not have a serious look at the Australian industry where the growth comes from both general aviation and those cadet schemes, we will see young people not entering the industry because why would they pay upwards of around \$200,000 for a cadet and training scheme when they are going to earn NZ\$42,000 per annum for three years as a cadet pilot? That is less than the Australian [average] wage.<sup>191</sup>

2.191 Captain Klouth shared these concerns, and noted also that significant debts carried by new pilots could affect their willingness to voice concerns related to safety:

The pay for training schemes that are currently used by the Low Cost Carriers result in new pilots commencing their career in airlines with a substantial amount of debt. Combined with debt that they may have incurred during their commercial training debts of over \$100,000 are not

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186 *Committee Hansard*, 18 March 2011, p. 34.

187 *Submission 37*, p. 2.

188 *Submission 37*, p. 2.

189 *Committee Hansard*, 1 December 2010, p. 13.

190 *Committee Hansard*, 1 December 2010, p. 3.

191 *Committee Hansard*, 1 December 2010, p. 3.



uncommon. This puts an additional layer of stress on the new First Officer that may result in them not wanting to 'rock the boat' when it comes to criticism of their training.<sup>192</sup>

2.192 AIPA's view was that:

...the cost of running cadet schemes should be cost neutral with direct entry schemes because the training should elicit the same graduate competencies. If Government believes that direct intervention is inappropriate, then AIPA strongly suggests that consideration should be given to extending HECS support to Air Transport Pilot Licence (ATPL), Instructor and type rating training.<sup>193</sup>

2.193 AIPA recommended that:

...the Bureau of Infrastructure, Transport and Regional Economics (BITRE) be tasked with investigating the price sensitivity of flying as a career choice, pricing structures within the aviation training industry and the relative position of aviation training within Government financial and fee<sup>194</sup> assistance/incentive programs.

*Alternate views on pay-for-training approaches*

2.194 The evidence of a number of submitters and witnesses did not support the concerns outlined above in relation to pay-for-training schemes.

2.195 CASA noted that pay-for-training schemes had been in use internationally for 'many years', particularly by European low-cost carriers, and had become 'the norm in certain sectors of the Australian market'.<sup>195</sup> The practice of airlines paying for pilots' aircraft ratings was 'occurring less often today than it once did', and there was no evidence of any detrimental effects on airline safety from such practices.<sup>196</sup>

2.196 In response to concerns that pay-for-training provided an incentive to pass sub-standard recruits, Captain Berry stated that he did not believe that pay-for-training schemes had any particular tendency to create pressure for paying students to be passed.<sup>197</sup> He noted that low failure rates were, in part, attributable to the use of aptitude tests as a barrier to entry into flying training courses.<sup>198</sup>

2.197 The Qantas and Jetstar submission also rejected such concerns:

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192 *Submission 5*, p. 2.

193 *Submission 6*, (*Supplementary*), p. 12.

194 *Submission 6*, p. 10.

195 *Submission 12*, p. 15.

196 *Submission 12*, p. 15.

197 *Committee Hansard*, 1 December 2010, p. 27.

198 *Committee Hansard*, 1 December 2010, p. 27.

There is no evidence of a connection between the manner in which a training program is funded and the skill level or safety of a pilot. It is common practice across a range of industries for the provision of training to have moved away from a more traditional apprenticeship model.<sup>199</sup>

2.198 In the case of OAA, Mr Petteford noted that, in relation to both airline sponsored cadets and private student training, OAA employed selection processes and continuous assessment, which ensured a high quality of graduates. He explained:

If an airline is supporting the program and willing to support them into employment at the end, then it is highly competitive and 95 per cent of them are rejected. If they were white tails, they don't know who they are going to work for at the end, we are doing all of the selection initially and we reject 52 per cent of our applicants. During the program—and this is the bit that really makes the program the filter as well—we carry out a process of continuous assessment, of which four per cent of them fail.<sup>200</sup>

2.199 In the case of students who failed to meet required standards, Mr Petteford noted that:

[OAA's] solution to the moral dilemma is if we terminate their training we give them all of their money back [for the balance of the course]. That is it. They get a full money back guarantee.<sup>201</sup>

2.200 In contrast to concerns about low wages for cadets, some evidence pointed to low starting wages as a feature of other professions, noting that people may accept low starting wages in light of the potential for better wages and conditions as their career advances. Captain Woodward commented:

It is an apprenticeship, really. Most young pilots realise that they are doing those things in the Northern Territory or earning such poor wages because ultimately they will be sitting where I am sitting as a 380 captain in an airline. It is a bit like doing training as a surgeon. Doctors end up doing 15 years of training to become a surgeon. They work long hours and get pitiful wages initially, but in the long term they do very well out of it, so they are rewarded.<sup>202</sup>

### **Other training funding arrangements**

2.201 Qantas and Jetstar submitted that there is a number of payment arrangements in place for pilot training schemes, which provides a suitably broad range of options for aspiring pilots:

The cost of...[training] programs is not uniform or standard. Some programs have an aspect of government and/or company funded

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199 *Submission 31*, p. 10.

200 *Committee Hansard*, 25 February 2011, p. 94.

201 *Committee Hansard*, 25 February 2011, p. 94.

202 *Committee Hansard*, 1 December 2010, p. 12.

arrangements, while others have the option of either direct payment by the training pilot or via salary sacrifice arrangements. These different payment options create flexibility to ensure that appropriately skilled individuals have a range of options in attaining their [CPL]. The range of options for pilot training available currently assists in attracting the most suitable candidates, rather than merely relying on ex service pilots and General Aviation pilots (who historically paid for their training in any event).<sup>203</sup>

### ***HECS-HELP and VET FEE-HELP***

2.202 The evidence received by the inquiry indicated some support for expanding the operation of HECS-HELP and VET FEE-HELP schemes.

2.203 The Department of Education, Employment and Workplace Relations website explains that HECS-HELP 'is a loan available to eligible students enrolled in Commonwealth supported places, and will cover all or part of the student contribution amount'.<sup>204</sup>

2.204 VET FEE-HELP is:

...a student loan scheme for the Vocational Education and Training (VET) sector that is part of the Higher Education Loan Program (HELP). VET FEE-HELP assists eligible students undertaking certain VET courses of study (diploma, advanced diploma, graduate certificate and graduate diploma courses) with an approved VET provider, to pay for all or part of their tuition costs. A VET provider is a registered training organisation who has been approved by the Australian Government to offer VET FEE-HELP assistance to their students.<sup>205</sup>

2.205 The RAAA commented that the current HECS-HELP arrangements favoured universities over independent training institutions, with anomalous results:

Those students undertaking their training through a university can qualify for HECS (and a significant debt). However, those training through the independent CASA approved flight training schools cannot access HECS while the parallel VET FEE-HELP scheme has become a bureaucratic quagmire and proving useless to the aviation industry. The latter schools can train competent commercial pilots in 18 months-2 years while the university schools take 3-4 yrs because of their degree structures. The anomaly is that students are attracted to the university schools because HECS is available. In other words government policy and administration

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203 *Submission 31*, p. 10.

204 Department of Education, Employment and Workplace Relations website, 'HECS-HELP', <http://www.goingtouni.gov.au/Main/Quickfind/PayingForYourStudiesHELPLoans/HECSHEL P.htm>, accessed 29 April 2011.

205 Department of Education, Employment and Workplace Relations website, 'VET FEE-HELP', <http://www.deewr.gov.au/skills/programs/support/vetfeehelp/Pages/default.aspx>, accessed 19 April 2011.

around the HECS/VET FEE-HELP schemes is seriously skewing the market towards the university based flight schools. Both types of schools are producing competent commercial pilots but students are choosing the longer path for financial reasons and non-university based schools are closing. This is madness when the industry needs well-trained pilots now. Australia has the potential to be a world leader in aviation training but cannot achieve this goal with the current policy settings.<sup>206</sup>

2.206 Mr Phillips supported a broadening of HECS-HELP. He commented that HECS-HELP:

...should not be just tied to universities...[as there] does need to be a broader pool...[Piloting is] one of the few professions where the individual carries the whole can for their training and professional qualifications and then rolls out at the end of it to probably some of the lowest paid positions around the place.<sup>207</sup>

2.207 In relation to VET FEE-HELP, Mr Stephen Fankhauser, Aviation Discipline Leader, SUT, advised that VET FEE-HELP was not available for a Certificate IV course of study, which was the accredited level of study assigned to the CPL under the current framework.<sup>208</sup> In addition, Mr Fankhauser noted that the current VET FEE-HELP limit of \$86 000 was 'not adequate for [the eligible practicum part of] aviation training', particularly when compared to the limits in place for other disciplines, such as veterinary science.<sup>209</sup>

2.208 Mr Peter Sobey, Compliance and Training Manager, RAAA, noted also that it was difficult for smaller training organisations to meet the criteria for attracting VET FEE-HELP, relating to financial requirements and the primary purpose of the training organisation, which must be for education.<sup>210</sup> Mr Sobey commented that, as a result, there were very few smaller training organisations were eligible for VET FEE-HELP:

Unfortunately in pilot training in Australia, one of the biggest problems that we have is it is only the pilots or cadets whose parents can support them that can make the journey through in the world of aviation. VET FEE-HELP was introduced to help the VET sector in the training area that I am in. As far as I know, there may be one actual training organisation that is qualified for VET FEE-HELP. So the scope around qualifying for VET FEE-HELP is ridiculous. It may be available to the bigger universities and TAFE colleges that have the government's backing, but there would not be a private enterprise training organisation that would not have some debt at

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206 *Submission 19*, p. 3.

207 *Committee Hansard*, 18 March 2011, p. 35.

208 *Committee Hansard*, 25 February 2011, p. 89.

209 *Committee Hansard*, 25 February 2011, p. 89.

210 *Committee Hansard*, 25 February 2011, p. 32.

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the bank, and we do not make the financial requirements of VET FEE-HELP.<sup>211</sup>

2.209 AIPA supported the expansion of VET-FEE HELP support to registered institutions.<sup>212</sup>

2.210 Virgin also supported this proposal:

The cost of pilot training is high, and prohibitively so for many aspirants. The Government's Vocational Education and Training (VET) reforms have enabled approved providers to offer VET FEE-HELP to eligible students in the aviation sector. While the number of providers offering flight training courses is limited, this may increase over time. The opportunity for a larger pool of labour to train as pilots and compete for selection should be positive in terms of maintaining high performance standards creating a more stable workforce.<sup>213</sup>

### **Retention of experienced pilots**

2.211 Term of reference (d) required the committee to consider issues relevant to the retention of experienced pilots.

2.212 The AIPA submission advised:

Prior to industry deregulation in the US and the emergence of the LCC worldwide, pilot retention was essentially not an issue. Pilot conditions of service were stable and rewarded years of service in a company. Remuneration was at the high end for salaried employees.<sup>214</sup>

2.213 However, the AIPA submission observed that industry deregulation and the emergence of LCCs had seen pilots' salaries and conditions significantly reduced. Captain Woodward observed:

We are seeing the situation where pilots are paid salaries that are below the basic wage in Australia and certainly below the wages of baggage handlers that are handling the bags in the aircraft.<sup>215</sup>

2.214 AIPA noted that the transition to low-cost methodologies in Australia, and the increase in competition, had seen the historical use of pilot wages to attract and retain experienced personnel come under 'significant pressure'.<sup>216</sup> This had also resulted in a shift away from the 'traditional airline practice of identifying and developing,

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211 *Committee Hansard*, 25 February 2011, p. 32.

212 *Committee Hansard*, 1 December 2010, p. 18.

213 *Submission 17*, p. 2.

214 *Submission 6*, p. 9.

215 *Committee Hansard*, 1 December 2010, pp 2-3.

216 *Submission 37*, p. 3.

experienced airline technical managers from within the pilot ranks.<sup>217</sup> VIPA was concerned that such approaches to pilot wages and conditions could amount to a 'race to the bottom', and ultimately lead to 'blowback' in the form of a deterioration in safety'.<sup>218</sup>

2.215 VIPA felt that airlines were increasingly focused on and concerned with business cost or 'bottom line' considerations in setting and negotiating over pilot wages and conditions. VIPA characterised a company involved in recent industrial negotiations as:

...so deeply tied into business cost and negotiating the most business efficient outcome that the safety aspects and the real need for experience is forgotten in the rush to undersell pilots terms and conditions for less experienced pilots who will work for less money.<sup>219</sup>

2.216 Similarly, AIPA submitted that LCCs in Australia operate on a recruitment model that does not seek to retain experienced pilots, but rather seeks to service a high turnover of less experienced and therefore more affordable pilots through particular recruiting practices, such as cadet training schemes.<sup>220</sup>

### ***Demand for pilots***

2.217 Many submitters and witnesses placed their remarks on the issue of pilot retention in the broader context of the likely demand for pilots in Australia in future years.

### ***General industry trends***

2.218 CASA advised that there is a 'limited supply of skilled aviation personnel in Australia', and that some predicted worldwide 'major shortfalls of trained pilots if the [current] rate of industry expansion continues'.<sup>221</sup> The CASA submission stated:

The dimensions of the skilled staff shortage throughout the world can be seen in figures produced at ICAO's Next Generation of Aviation Professionals conference...[in 2011], which indicate that, over the next sixteen years, there will be a need for an additional 800 000 new pilots and engineers to keep the international aviation industry functioning smoothly. Boeing predicts that there will be a requirement for an extra 180,600 pilots and 219,900 new technicians in the Asia/Oceania region alone by 2029.<sup>222</sup>

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217 *Submission 37*, p. 3.

218 *Submission 37*, p. 4.

219 *Submission 37*, p. 4.

220 *Submission 6*, p. 7.

221 *Submission 12*, p. 20.

222 *Submission 12*, p. 20.

2.219 Captain Woodward observed that the expected increase in demand for pilots would impact on the ability of Australian airlines to retain pilots, and influence the employment dynamics of the airline industry. He explained:

Traditionally, you might have joined your national carrier and stayed there for 40 years. You will probably see pilots migrating back and forth now between countries and airlines trying to achieve best outcomes...We will see pools of pilots coming from all over the world because there will be a period soon where, if you are warm and upright and you have a professional licence, you will get a job.<sup>223</sup>

2.220 CASA observed that the general aviation sector experienced problems retaining experienced pilots as a result of pilots moving from 'commuter, charter or instructional backgrounds' to commercial airlines.<sup>224</sup>

2.221 Tiger Airways noted that such movement of pilots from general aviation and smaller operators to larger operators was a longstanding feature of airline operations. Captain Berry commented that:

...aviation has always been a career ladder. Pilots have generally progressed from flying smaller aircraft to flying larger aircraft. Pilots hold various ambitions, but to be a captain of an A380 one day is probably on a lot of people's lists. There is an element of one airline feeding upon the other, if you like, when seeking pilots for employment...We do not knowingly go out and 'poach', to use the term, but where a pilot presents himself to us, if he has discharged himself of his obligations to his previous employer, we are very happy to take him on.<sup>225</sup>

2.222 Similarly, Captain Woodward observed that the ability of larger carriers to offer superior pay and conditions and, to some extent, the prospect of piloting larger and more powerful aircraft, was a constant source of attraction to pilots seeking 'better remuneration and conditions'.<sup>226</sup> The retention of pilots was a 'perpetual problem' for the 'low-capacity end of the aviation sector', such as regional carriers.<sup>227</sup>

2.223 Virgin also acknowledged that 'the career aspirations of the regional pilots are to fly for Virgin Blue or other mainline carriers'.<sup>228</sup> In recognition of the pressures that this could place on regional carriers, Virgin advised:

What we have done recently is be more transparent with the regional carriers. We are starting to share the number of pilots we plan on hiring for the year...so that they have the opportunity to see from a planning

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223 *Committee Hansard*, 1 December 2010, p. 17.

224 *Submission 12*, p. 15.

225 *Committee Hansard*, 1 December 2010, p. 32.

226 *Committee Hansard*, 1 December 2010, p. 3.

227 *Committee Hansard*, 1 December 2010, p. 3.

228 *Committee Hansard*, 18 March 2011, p. 10.

perspective how many of their pilots are going to put their hands up and say, 'I would like to fly for Virgin Blue.' That will continue. What we are trying to do is help them manage their process as well.<sup>229</sup>

2.224 The RAAA submitted that the movement of pilots from regional to major airlines meant that the regional airline industry carries relatively higher costs of training and developing pilots:

There is little doubt that the large airlines treat the regional airlines as their training pool. Some of the large airlines do not have their own pilot training program and make no contribution to developing young pilots. They rely on attracting pilots from smaller airlines and overseas, and benefit from the training previously given by other aviation companies. As a result, the regional airline industry which has much lower economies of scale and decreased ability to bear high costs, incurs the largest proportion of the cost of developing a commercial pilot into a professional, experienced and polished RPT captain or [first officer].<sup>230</sup>

2.225 As a particular example of this trend, Regional Express noted that, during a shortage of pilots in 2007-08, the company had lost 50 per cent of its pilots to larger airlines, and that this had been a significant factor in the company instituting its own cadet pilot training scheme.<sup>231</sup> The Regional Express cadet scheme contained financial incentives to encourage pilots to stay for at least the period over which the training costs are repaid to the company (approximately seven years).<sup>232</sup>

2.226 Mr Sobey commented:

...the best way we can see to keep pilots is for companies like Jetstar, Qantas and Virgin to have their own cadetship programs. That way, they're not out poaching our pilots.<sup>233</sup>

2.227 CASA observed that the movement of pilots from general aviation to commercial airlines had potential safety implications, and advised that it had:

...adjusted its oversight of individual operators and sectors of the industry accordingly by increasing surveillance where appropriate and providing increased and targeted educational support...<sup>234</sup>

2.228 In contrast to general aviation operators and regional airlines, Qantas and Jetstar advised that the group of companies had a 'high level of pilot retention over

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229 *Committee Hansard*, 18 March 2011, p. 10.

230 *Submission 19*, p. 3.

231 *Committee Hansard*, 1 December 2010, p. 36. Cadet schemes are discussed above under term of reference (c), relating to current industry recruiting practices.

232 *Committee Hansard*, 1 December 2010, p. 40-41.

233 *Committee Hansard*, 25 February 2011, p. 33.

234 *Submission 12*, p. 15.



recent years', as evidenced by the 'low attrition rate for pilots employed by each of the [Qantas Group's] Australian flying entities, especially when compared with the Australian average'.<sup>235</sup> The pilot attrition rates for the three entities comprising the Qantas Group were all below the Australian industry average of 12.5 per cent:

- Qantas (1.1 per cent);
- Jetstar (1.4 per cent); and
- Qantaslink (7.2 per cent).

2.229 With regard to Qantaslink, the Qantas Group advised:

Whilst having a low attrition rate, QantasLink's attrition rate is higher than the other Group airlines as it reflects the general trend of pilot progression from regional turbo prop operations to jet aircraft operations.<sup>236</sup>

2.230 Virgin advised:

The annual turnover of pilots in the Virgin Blue Group is less than 1%, which is much lower than other major groups of its workforce. Turnover in the industry generally rises during growth periods as demand for labour and accordingly choice of employment opportunities increases, and is lower during times of reduced economic activity such as the global financial crisis. It should also be noted that the ability to retain pilots, is not solely influenced by the airline employer. Broader factors such as more competitive personal tax frameworks and lifestyle also drive decisions.<sup>237</sup>

### **Type rating (endorsements) and recurrent training for pilots**

2.231 For the purposes of the inquiry, the committee understood the term 'type rating' to refer to aircraft 'endorsements', which is a specific qualification to fly a type or class of aircraft. An endorsement is issued on the basis that the pilot in question can safely operate a type or class of aircraft as pilot in command or co-pilot, as specified.<sup>238</sup>

2.232 The committee understood the term 'recurrent training' to refer to airlines' training and proficiency checking systems. CASA offered the following description of an airline training and checking systems:

Within an airline training and checking system, a pilot will be proficiency checked; that is a specific proficiency will be assessed by the operator, such as the pilot's proficiency to operate a company aircraft on line operations (the line check). [An]...operator may also provide its pilots with the opportunity to periodically practice emergency flight manoeuvres that

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235 *Submission 31*, p. 10.

236 *Submission 31*, p. 11.

237 *Submission 17*, p. 2.

238 *Submission 12*, p. 18.

would not be encountered during normal operations. Personnel employed by the airline may have previously received training conducted by a number of different providers or been issued qualifications on the basis of foreign licence qualifications. An airline training and checking system must determine a person's competency to perform their duties to the standards expected of the airline and in compliance with CASA regulations.<sup>239</sup>

2.233 Training and checking may apply to the following aspects of a pilot's skills and career development:

- induction into an airline;
- training in the airline's operations before being released to unsupervised line operations;
- training on any new procedures or equipment;
- endorsement on company aircraft (if the company conducts its own endorsement training);
- checking for continuing proficiency at least twice per year; and
- testing for the re-issue of command or co-pilot instrument ratings on an annual basis.<sup>240</sup>

2.234 The committee heard that, in Australia, type endorsements can be conducted by airlines, specialist approved training organisations, ATOs or qualified flying instructors.<sup>241</sup> As the safety regulator, it is CASA's role to set the standards for aircraft type endorsements.<sup>242</sup>

2.235 The committee heard that the large commercial airlines in Australia are required to have in place a CASA-approved training and checking system.<sup>243</sup> For smaller operators, the Chief Pilot is responsible for maintaining flying standards.<sup>244</sup> As the safety regulator, it is CASA's role to set the standards for training and checking of flight crew.<sup>245</sup> This includes:

- approving various approaches to training and checking;
- periodically assessing and approving training and checking pilots; and
- assessing and approving chief pilots.<sup>246</sup>

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239 *Submission 12*, p. 17.

240 *Submission 12*, p. 18.

241 *Submission 12*, p. 17.

242 *Submission 12*, p. 16.

243 *Submission 12*, p. 18.

244 *Submission 12*, p. 19.

245 *Submission 12*, p. 16.

246 *Submission 12*, pp 18-19.

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### *Concerns relating type endorsement and recurrent training*

2.236 AIPA submitted that type endorsements and recurrent training were directly relevant to the three of the four root causes in an increase in fatal accidents in large aircraft since 2005. These were:

- training being inappropriate for today's aircraft;
- automation reliance; and
- degraded manual handling skills.<sup>247</sup>

2.237 AIPA noted that modern aircraft were heavily reliant on automated flight systems, and that there was an attendant risk that pilots' manual flight skills would 'eventually deteriorate if not regularly practised'.<sup>248</sup>

2.238 AIPA also noted that automation carried inherent risks for safety:

A series of accidents and incidents related to incorrect or inappropriate auto-flight use have led most airlines to publish auto-flight usage policies in order to give the pilots guidance on when they should use the auto-flight system, at what level and, more importantly, what to do if there is an auto-flight system malfunction or auto-flight system confusion on the part of the pilots.<sup>249</sup>

### *Adequacy of flight simulator training*

2.239 AIPA submitted that these issues relating to automation were effectively 'all issues associated with training', largely conducted through the use of flight simulators.<sup>250</sup> AIPA was concerned that flight simulators were being used to enable pilots to achieve a minimum standard rather than to equip them with the skills and knowledge to address the problems arising from aircraft automation. The AIPA submission explained that cost was a factor in determining how simulators were being used for training:

Almost all pilot training in large aircraft is conducted in simulators rather than in the aircraft itself, both as a cost and a risk reduction measure. However, modern simulators can cost \$20 million dollars each with running costs of hundreds, or even thousands, of dollars an hour. These high costs result in training courses that are pitched at the lowest number of simulator sessions that will allow the pilot to achieve the minimal acceptable standard. This is often a selling point by the manufacturers: company A's

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247 *Submission 6*, p. 11.

248 *Submission 6*, p. 11.

249 *Submission 6*, p. 11.

250 *Submission 6*, pp 11-12.

aircraft requires two less simulator sessions for a pilot conversion from a similar type than company B's aircraft.<sup>251</sup>

2.240 The use of flight simulators for a minimum compliance outcome was also encouraged by baseline training ratios set by aircraft manufacturers:

The aircraft manufacturer generally establishes the baseline type rating training. Invariably, this baseline training is focused on the minimal training required to operate the aircraft as originally intended, rather than with the design flaws and unexpected outcomes that typically arise over the life of the aircraft. Despite the rhetoric, manufacturers and operators infrequently revisit these baselines in the pursuit of quality and most LCCs are particularly wary of increases in training costs. The previous situation where operators easily exceeded the minimum regulatory requirements is rapidly disappearing and the minimum statutory requirements are now becoming the benchmark.<sup>252</sup>

2.241 Virgin, however, advised that, in respect of type endorsement training, for example, the company exceeded the minimum number of hours training prescribed by the regulations.<sup>253</sup>

2.242 AIPA submitted that simulator training was also lacking in human factors training:

AIPA is of the view that most currently available aircraft type ratings tend to treat predominantly skills in the simulator with minimal reinforcement of knowledge and virtually no [human factors/non technical skills] HF/NTS training. We believe that instructors have to be capable of HF/NTS training and assessment in order to integrate the training. Unfortunately, airline training of instructor staff is unregulated and very patchy, as is typical of course development. There is a paucity of guidance material and regulatory standardisation.<sup>254</sup>

2.243 Given these factors in relation to simulator training, AIPA submitted that:

...the current regulatory requirements are inadequate as benchmarks for quality type rating training and consequently for recurrent training. The role of the Civil Aviation Safety Authority (CASA) is to specify a minimum standard of required knowledge, skills and behaviours that reflects modern systems and maintains the quality of training. Quality type rating and recurrent training provide the essential system resilience to address emerging issues as well as to maintain acceptable levels of safety.<sup>255</sup>

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251 *Submission 6*, pp 11-12.

252 *Submission 6*, p. 12.

253 *Committee Hansard*, 18 March 2011, p. 16.

254 *Submission 6*, (*Supplementary*), p. 10.

255 *Submission 6*, p. 12.

2.244 Mr Joyce described simulators as valuable and critical elements of modern training:

They have improved dramatically over the years, and keep raising the levels of reality. [Simulators replicate]...challenging flying conditions...and...scenarios...The simulators are important aids to pilot training and to the maintenance of pilots' skills. Even the most experienced Qantas pilots spend an average of 16 hours per year in the simulators. In addition to the cost of training-related infrastructure such as flight simulators, we spend approximately \$30 million each year on pilot training, including recurrent training.<sup>256</sup>

2.245 Captain Bryan Murray, AFAP President, was also confident that simulators were a valuable aspect of modern aviation training approaches:

I consider that the simulator is an outstanding training aid and we obviously can do things in the simulator that we would not even think about doing in the aeroplane. I personally consider that the simulator is more difficult to fly than the aeroplane, as good as the simulators are. It is different, but I am sure that, having had simulator training on the 737 simulator and recurrent training, if the same thing happened in the aeroplane I would more than capably handle it because of the training that I regularly get from Virgin Blue.<sup>257</sup>

2.246 In relation to type endorsement and recurrent training more broadly, AIPA recommended that:

...airline operators no longer be permitted to charge employees for post graduate training programs to fly specific aircraft types. In AIPA's considered view, these forms of training should remain an airline's cost of doing business.<sup>258</sup>

2.247 Finally, AIPA recommended that:

CASA review the knowledge, specified behavioural objectives and skills required for type rating and recurrent training programmes. This review should focus on the skill set necessary for a pilot of a modern complex aircraft to deal with sophisticated automation, degraded auto-flight modes and manual flight skills throughout the aircraft's flight envelope. It should also define minimal levels of systems and aircraft knowledge such that systems confusion and automation dependency do not become a flight safety issue.<sup>259</sup>

2.248 CASA advised the committee that it was currently conducting a review of airline training and checking activities. Mr McCormick explained:

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256 *Committee Hansard*, 25 February 2011, p. 2.

257 *Committee Hansard*, 25 February 2011, p. 62.

258 *Submission 6*, p. 8.

259 *Submission 6*, p. 12.

This review—the most comprehensive CASA has ever undertaken—is ongoing. Preliminary indications suggest that there is opportunity for CASA to provide more guidance to operators regarding airline training and checking. To this end we have expanded the approved testing officer manual and we will be developing an entry control theory course for new check pilots. We will also be expanding the use of our flight test notification system to enable a more comprehensive analysis of data relating to pilot standards. During this process, we will involve the airline industry through the formation of specialist industry advisory panels.<sup>260</sup>

2.249 CASA drew the committee's attention to a number of proposed new regulations relating to type endorsements and operator training and checking. These were CASR Parts 119, 121, 133, 135 and 142. The committee notes that CASR Part 121 in particular is intended to introduce 'more comprehensive training and checking requirements for cabin crew...flight crew and ground support personnel'.<sup>261</sup> However, the committee did not receive evidence on the substantive detail of this proposed new regulation.

## **Committee view**

### ***Introduction***

2.250 The committee notes that the inquiry provided a valuable opportunity for an extensive airing of, and investigation into, a raft of issues to do with airline safety. As noted in Chapter 1, given the nature of the airline industry, in which accidents and safety incidents can have such profound consequences, safety is an issue that in theory and practice cuts across every aspect of airline operations.

2.251 Given the breadth of issues raised by submitters and witnesses, and in light of practical considerations, the committee has limited the focus of this report to the issues of pilot training and accident and incident reporting, and their potential impacts on airline safety more generally.

2.252 The committee's approach means that a number of issues that were raised in evidence are not addressed in detail in this report. An example of one such issue is aviation maintenance, which, while not given detailed consideration in this report, may be worthy of particular examination by this committee or another appropriate body in the future. Similarly, the committee notes that, while the focus of the report is on the larger commercial passenger airlines in Australia, an inquiry into the general aviation sector may well be warranted in future.

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260 *Committee Hansard*, 25 February 2011, p. 109.

261 CASA website, 'Civil Aviation Safety Regulations, CASR Part 121 – domestic and international passenger transport services (PTS) or cargo-only in larger aeroplanes', [http://www.casa.gov.au/wcmswr/\\_assets/main/newrules/parts/121/download/infopack121\\_may09.pdf](http://www.casa.gov.au/wcmswr/_assets/main/newrules/parts/121/download/infopack121_may09.pdf), accessed 23 February 2011.

2.253 Throughout the course of the inquiry, the committee also received a number of public and in camera submissions inviting it to consider particular incidents relating to safety. While the committee examined any such incidents for evidence of broader or systemic pilot training or reporting deficiencies, the committee did not make findings regarding individual fault or blame in any such case. The committee raised a number of these reports and incidents with the regulator, and was satisfied in all cases that appropriate investigations and action had been, or would be, undertaken.

2.254 The committee notes that the evidence of all submitters and witnesses was underpinned by a desire to maintain Australia's enviable aviation safety record. The committee rejects any suggestion that parties to the inquiry were motivated by matters other than their interest in ensuring that Australian aviation continues to achieve world's best outcomes in terms of safety.

***Pilot experience requirements and the consequence of any reduction in flight hour requirements on safety;***

***The United States of America's Federal Aviation Administration Extension Act of 2010, which requires a minimum of 1500 flight hours before a pilot is able to operate on regular public transport services and whether a similar mandatory requirement should be applied in Australia;***

***Current industry practices to recruit pilots, including pay-for-training schemes and the impact such schemes may have on safety;***

***Retention of experienced pilots; and***

***Type rating and recurrent training for pilots.***

2.255 Terms of reference (a), (b), (c), (d), and (e) required the committee to consider a broad range of issues relating to pilot experience requirements, recruiting and training and pilot retention, as well as a specific proposal to require that all pilots operating regular public transport (RPT) should be required to have a minimum 1500 hours flight experience.

2.256 The committee heard that pilot experience requirements in Australia are effectively established by the minimum experience requirements which apply to the licences needed to operate as a pilot on RPT services. While there is no proposal or apparent likelihood that these minima will be reduced, there was significant comment in evidence regarding whether these minima remain sufficient to ensure positive safety outcomes.

2.257 The committee heard that this question has become all the more relevant given recent trends in the aviation industry, whereby pilots are moving into the co-pilot's seat more quickly than was historically the case. While pilots (captains) are required to have a minimum 1500 hours experience, the minimum experience requirement for co-pilots is an apparently modest 150 or 200 hours, depending on the course of qualification undertaken.

2.258 Generally speaking, there was a significant consensus among stakeholders that acceptable levels of pilot proficiency are achieved through a mix of flight experience (including flight simulator training) and competency based training.

2.259 However, there was substantial disagreement regarding the exact number of flight hours that should, combined with the achievement of the relevant competencies, qualify a co-pilot to operate RPT services. A number of submitters and witnesses, including the CASA, regarded the existing minima as satisfactory. In support of this view, it was noted that the current requirements are in accordance with international norms, and are sufficient in light of competency based and tailored training approaches. Further, it was noted that specific policies and airline training checking systems are directed to ensuring that low-experience pilots are properly mentored and monitored once allowed into the co-pilot's seat.

2.260 A number of submitters and witnesses, however, argued that the minimum flight hours requirement for co-pilots operating RPT flights should be increased to 1500 hours (term of reference (b)). This proposal was said to achieve a more appropriate balance between experience and competency based training approaches, particularly in light of the potential consequences of accidents involving high-capacity RPT services. The use of co-pilots with flight experience hours approaching the licence minima was said to involve a number of latent safety risks, notably the inability of a co-pilot to replace and/or support the captain in cases of emergency, and the reluctance of a very inexperienced co-pilot to question the actions of an experienced captain (a circumstance described as involving a steep cockpit authority gradient).

2.261 A critical issue in these arguments was the adequacy and quality of current training methods for prospective pilots, as well as for the granting of type endorsements and recurrent training of already licensed pilots. The focus of much of the evidence in relation to these matters was on cadet schemes and third party training providers (term of reference (c)), which the committee heard are increasingly being used by Australian airlines.

2.262 Supporters of the current licence minima generally argued that cadet schemes and third party training arrangements promote adequate if not superior training outcomes, as they are specifically tailored to producing commercial pilots to operate multicrew aircraft in accordance with the specific standard operating procedures of a particular airline. Cadet schemes were also identified as enabling regional operators to better retain pilots through bonding arrangements, in order to resist the historical loss of pilots to larger airline operators.

2.263 In addition to evidence regarding the specific benefits of cadet schemes and third party *ab initio* training, the committee heard that the proficiency of low-experience pilots was supported by ongoing training and checking requirements, as well as particular airlines' policies governing the use of such pilots. The committee heard that, generally speaking, low-experience co-pilots are placed under operational



restrictions. One such example was the Virgin Blue Group (Virgin) policy which restricts the pairing of inexperienced pilots.

2.264 Proponents of an increase in the minimum experience requirement for co-pilots operating RPT argued that the methodologies employed by cadet training and third party *ab initio* training do not substitute for the breadth of experience and situational awareness that comes from real life flying. In particular, it was argued that simulator training is pursued as a minimum compliance or 'tick-a-box' activity, and is not fully utilised to achieve proficiency outcomes. Third party provision of cadet or pilot training was also said to potentially suffer from a similar compliance focus, as well as create potentially dangerous learning discrepancies in relation to the standard operating procedures (SOPs) of the contracting airline (this issue arose in connection with term of reference (h), discussed below). Significantly, it was noted by many that third party providers currently fall outside of the regulatory purview of CASA.

2.265 Evidence provided to the inquiry by pilots (in particular by AIPA and Captain Geoff Klouth) refers to the additional pressure on a captain flying with a low-experience pilot, particularly in a stressful flight situation, let alone in an emergency. For these reasons alone, the committee agrees that those who hold only a CPL or an MPL should not be permitted to co-pilot the largest high capacity regular public transport jet aircraft in Australia, as identified in Recommendation 1.

2.266 The concerns outlined in the preceding paragraph regarding the quality of simulator training and the use of third-party training providers were also relevant to (term of reference (e)), relating to type rating (endorsement) and recurrent training for licensed pilots.

2.267 In relation to (term of reference (d)), relating to pilot retention, a number of submitters and witnesses argued that airlines, particularly low cost carriers (LCCs), are increasingly utilising cadet schemes to avoid paying higher wages for experienced pilots, or even as a strategy to generate revenue through the training costs applied to cadets or to pilots obtaining type endorsements. The committee heard concerns that new pilots were beginning their careers with substantial debts, which could impact on both morale and the preparedness of such pilots to raise safety concerns.

2.268 However, these practices were defended as being relatively longstanding practices that provided a legitimate entry pathway to a career as a pilot, for those who did not have the capacity to pay the significant costs of training up-front, and which supported a variety of business models in the aviation sector.

2.269 In relation to the issue of co-pilots operating on RPT flights with flight experience hours closer to the established licence minima, the committee observes that this must, of itself, represent a reduction in safety compared to past practices in which pilots would not usually progress to the co-pilot's role without flight experience significantly in excess of the prescribed licence minima. However, given the evidence that the current minima accord with international standards and are not considered by CASA to represent a threat to safety standards, the committee could not conclude with

any confidence that this represents a reduction in safety that equates to a significantly or unacceptably higher risk to Australian aviation.

2.270 In addition, the committee was concerned that the imposition of such a requirement could adversely impact on the supply of suitably qualified pilots to particular sections of the Australian aviation industry, notably the general aviation sector and smaller regional operations.

2.271 Further, MPL programs worldwide are still in their infancy and the jury is still out on their quality and effectiveness.

2.272 However, the committee did not support the proposal that all RPT co-pilots in Australia be subject to a minimum experience requirement of 1500 hours.

2.273 Despite this conclusion, the committee observes that the increasing use of co-pilots with flight experience hours approaching the licence minima does give rise to legitimate concerns regarding the capacity of flight crew to respond to emergency situations, such as the recent uncontained engine failure of Qantas flight QF32 over Batam Island near Indonesia. Equally, the use of low-experience co-pilots may increase the potential for adverse consequences arising from steep cockpit authority gradients.

2.274 Accordingly, the committee agreed that commercial passenger airlines should be required to develop and implement policies relating to the use of low-experience pilots, to maximise, wherever possible, the collective experience levels of flight crew.

2.275 The committee would also highlight evidence regarding the importance of multicrew training, or crew resource management (non-technical skills) and human factors training, as an antidote to many of the inherent risks identified as arising from low flight experience, such as poor situational awareness and steep cockpit authority gradients, and the increasing reliance on automated aircraft systems. The committee heard that there is not currently sufficient requirement for such training in respect of the qualifying requirements for the grant of a Commercial Pilot Licence (CPL) or Air Transport Pilot Licence (ATPL). However, the committee understands that such training will be incorporated into the qualifying requirements for these licence types with the implementation of proposed new regulation CASR Part 61, which is expected to be complete by June 2011.

2.276 Subject to the committee's general comments in the next chapter regarding CASA's regulatory reform process, the committee agreed that the implementation of CASR Part 61 should be pursued as a priority, and should ensure that all prospective regular public transport (RPT) pilots are required to complete substantial course-based crew resource management and human factors training prior to, or in reasonable proximity to, initial endorsement training.

2.277 In addition, the committee agreed that, given the importance which all stakeholders placed on the quality of simulator training, there are legitimate questions surrounding whether such training is being used to achieve optimum safety related

outcomes, as opposed to minimum compliance outcomes. For example, the committee considered that a number of stick shaker incidents discussed in evidence to the inquiry may suggest inadequate simulator training with respect to avoiding an imminent stall, one of the most dangerous situations that a pilot may encounter. Given this, the committee felt that CASA should be required to undertake a risk assessment of current simulator training, to assess whether the extent, aims and scope of such training is being utilised to achieve optimum safety outcomes rather than minimum compliance objectives.

### **Recommendation 1**

**2.278** The committee is of the view that an ATPL should also be required for first officers in high capacity regular public transport (RPT) jet aircraft such as Boeing 737, A320 and other aircraft of similar or greater capacity, and that consideration be given to implementing this as a standard.

### **Recommendation 2**

**2.279** The committee recommends that for non-jet operations which employ low-experience first officers, operators be required to provide enhanced supervision and mentoring schemes to offset such lack of experience.

### **Recommendation 3**

**2.280** The committee recommends that Air Operators Certificate (AOC) holders be required to develop and implement 'green on green' policy positions relating to the use of low experience pilots in RPT operations, to maximise, wherever possible, the collective experience level of flight crew.

### **Recommendation 4**

**2.281** The committee recommends that Civil Aviation Safety Regulation (CASR) Part 61 ensure that all prospective regular public transport (RPT) pilots be required to complete substantial course-based training in multi-crew operations and resource management (non-technical skills) and human factors training prior to, or in reasonable proximity to, initial endorsement training; the committee recommends that the Civil Aviation Safety Authority (CASA) expedite, and assign the highest priority to, the implementation of CASR Part 61.

### **Recommendation 5**

**2.282** The committee recommends that the Civil Aviation Safety Authority (CASA) ensure that Part 61 of the Civil Aviation Safety Regulations currently being reviewed place sufficient weight on multi-engine aeroplane experience as opposed to the current recognition of glider and ultra-light experience.

### **Recommendation 6**

**2.283** The committee recommends that the Civil Aviation Safety Authority (CASA) be required to undertake a risk assessment of current simulator training

**to assess whether the extent, aims and scope of such training is being utilised to achieve optimum safety outcomes rather than minimum compliance objectives.**

2.284 In relation to third party provision of cadet and pilot type endorsement and recurrent training, the evidence showed that currently there is a regulatory 'blind spot' in relation to such entities. The committee heard that, while CASA maintains oversight of training standards and outcomes through its regulation of AOC holders, the lack of regulatory oversight of third party training does not provide for optimal safety outcomes. In particular, there is a strong view among many industry stakeholders that third party providers may be giving priority to commercial imperatives by pursuing minimum compliance or 'tick-a-box' strategies. Further, there is a very real risk that such arrangements may be giving rise to learning discrepancies between third party provider training courses and the SOPs of airlines contracting such training services. The potential for such outcomes was reinforced by the committee's consideration of the Jetstar 'go-around' event in connection with term of reference (h).

2.285 In relation to these issues, the committee notes evidence that proposed new regulations CASR Parts 141 and 142, relating to flight training operators and flight crew licensing, propose that third party training organisations that provide training either independently to individuals or in concert with aircraft operators, must be responsible for the training they provide or take shared responsibility with the aircraft operator. The committee understands that CASA is pursuing the implementation of the proposed new regulations as a priority.

2.286 In light of the evidence regarding third party training providers, and subject to the committee's general comments in the next chapter regarding CASA's regulatory reform process, the committee shared the view that the implementation of CASR Parts 141 and 142 should be afforded the highest priority.

2.287 The following Recommendation 4 and the supporting analysis are also relevant to term of reference (e), relating to type rating (endorsement) and recurrent training for licensed pilots.

### **Recommendation 7**

**2.288 The committee recommends that the Civil Aviation Authority (CASA) expedite, and assign the highest priority to, the implementation of Civil Aviation Safety Regulations (CASR) Part 141 'Flight Training Operators' and Part 142 'Training and Checking Operators'.**

2.289 In relation to cadet schemes, the committee notes that, notwithstanding the issues surrounding third party provision of training and the use of simulators, cadet schemes improve the ability of airlines, particularly regional carriers and smaller commercial operators, to train pilots for the purpose of business continuity. The use of cadet schemes by larger airlines may also reduce the need for such airlines to 'poach' pilots from regional operators. Subject to ensuring quality training outcomes,

including adequate supervision and mentoring, the committee found that cadet schemes are a legitimate pathway for pilot recruitment, training and development.

2.290 However, the committee was concerned by evidence provided over the disparate terms and conditions of cadet schemes. Some members of the committee were particularly concerned over the terms and conditions for the Jetstar cadet scheme.

2.291 In relation to the issue of pilot retention, the committee notes that there was significant disagreement on the extent to which airlines may be improperly pursuing cost reduction strategies at the expense of employing and retaining experienced pilots. The committee notes that the increased competition in the Australian market, flowing from the introduction of international carriers and the advent of LCCs, has resulted in a wider variety of business models offering pilots a range of salaries and employment conditions. While the committee acknowledges that levels of remuneration may impact on the ability of airlines to attract the 'best and brightest', the inquiry did not receive evidence that the current range of pilot salaries from general aviation through to LCCs and premium employers such as Qantas acts as a disincentive to talented prospective pilots. Indeed, the committee notes that pilot career progression has historically taken a course from less sophisticated operations, operating relatively basic aircraft and offering relatively modest remuneration, through to high-end carriers operating state-of-the art aircraft and offering more generous salaries and conditions.

2.292 The committee notes that a fundamental driver of pilot retention and levels of remuneration is the domestic supply of pilots, and this was an area that was also subject to significant disagreements in the evidence received. While some claimed that that general aviation is unable to provide adequate numbers of suitably skilled candidates for general airline intake, another view was that general aviation continues to provide sufficient candidates with a skills base that is readily convertible to RPT operations.

2.293 In the committee's opinion, general aviation remains a fundamental and necessary source of pilots for the Australian commercial airline market. While, as noted above, the inquiry's focus was not on general aviation, it remains the case that the route from general aviation through to regional carriers and high-end commercial operations remains one of the critical pilot recruitment pathways. Further, in a country as vast as Australia, the committee agrees that the ongoing health and viability of the general aviation sector is vitally important.

2.294 Beyond general aviation, ensuring sufficient future domestic pilot supply also relies on removing barriers to entry to the profession relating to both cost and opportunity. In this respect, the committee notes wide support among industry stakeholders for the broadening of current HECS HELP and VET FEE-HELP arrangements to provide support for a wider range of training options and pathways.

2.295 In response to the issues raised in relation to pilot retention and supply side issues, the committee considers that the Government should require the Productivity Commission or another suitable body to undertake a review of the current and future supply of pilots in Australia, with particular reference to the general aviation and cadet training pathways, and HECS HELP and VET FEE-HELP arrangements.

### **Recommendation 8**

**2.296 The committee recommends that the Government require the Productivity Commission or another suitable body to undertake a review of the current and future supply of pilots in Australia, with particular reference to the general aviation and cadet training pathways, and HECS HELP and VET FEE-HELP arrangements.**

2.297 Since the committee last heard evidence, an updated briefing has been provided by France's Bureau of Investigation and Analysis (BEA), France's equivalent to the ATSB, on the loss of Air France 447 on a flight from Rio de Janeiro to Paris on 1 June 2009.

2.298 It appears likely from the preliminary briefings by the BEA, that issues of pilot training and experience will be further considered in extensive detail in relation to the loss of Air France 447, and the final findings of the BEA's investigation should be extensively considered by CASA, the ATSB, and the aviation industry generally.

### **Recommendation 9**

**2.299 The committee recommends that the Civil Aviation Safety Authority (CASA), the Australian Transport Safety Bureau (ATSB) and Australian aviation operators review the final findings of France's Bureau of Investigation and Analysis into Air France 447, including consideration of how it may apply in the Australian context. Subject to those findings, the committee may seek the approval of the Senate to conduct a further hearing in relation to the matter.**